#### JOINT USE OF POLES

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#### 1. SCOPE

- 1.1 This section discusses considerations involved in joint use of poles for rural power and telephone circuits under conditions where:
  - 1.11 Telephone circuits are open-wire.
  - 1.12 Electric power circuits are of the multigrounded neutral type whose voltage to ground does not exceed 8700 volts.
- 1.2 For joint use in situations not covered by 1.1, special study of the factors involved will be required to determine the necessary clearances, separations, and protection arrangements.

  Among conditions not covered in this section are those where:
  - 1.21 Telephone circuits are in cable.
  - 1.22 Electric power circuits are of the delta, unigrounded neutral or ground return type.

- 1.23 Electric power circuits are of the multigrounded neutral type but where voltage to ground exceeds 8700 volts.
- 1.3 For the conditions described in 1.1, this section provides information on requirements for clearances, separations, pole strengths, and protection, together with guides for determination of classes and heights of poles for typical conditions encountered in the field.

#### 2. GENERAL

- 2.1 Joint use of poles in rural areas offers opportunities for economies in the construction of pole lines for providing telephone and electric service. The maximum economies are associated with pole lines constructed expressly for joint use. Where joint use is to be undertaken on an existing electric pole line, which represents the majority of situations that will be encountered, the economies available, if any, will be in inverse proportion to the extent that modifications in the pole line are required to make it suitable for joint use. The modifications required are determined by the necessity of providing adequate pole atrength, proper ground clearance and conductor separations to assure safety in the operation of telephone circuits in close proximity to power circuits.
- 2.2 The requirements of this section of the manual are based on conformity with applicable provisions of the National Electrical Sefety Code (NESC) Fifth Edition. The provisions of NESC form the bases of the publication "Joint Pole Practices for Supply and Communication Circuits" of the Edison Electric Institute (Pub. M-12) and the Bell Telephone System.
  - 2.21 Because the NESC did not cover joint use in long-span construction, additional provisions are necessary to assure adequate separation in mid spans. Requirements governing long-span joint use were issued by the EEI and Bell System in 1946 as part 5 of the "Joint Pole Practices" mentioned in paragraph 2.2. Experience with the practices outlined in part 5 has been satisfactory and forms the basis for the requirements of this section for long-span construction.
- 2.3 In addition to the provisions of the NESC, all joint construction should be in conformance with state and local laws or ordinances applying, where they may be more stringent than the NESC. Since joint construction will involve attachments to poles owned by a power organization, the provisions of specifications, if any, of the owner of the poles to which

with power circuits. Therefore, requirements for vertical clearances above ground for telephone conductors will control the pole height requirements in joint use. Section 602 of the Telephone Engineering and Construction Manual provides data on ground clearance requirements which should be followed in the design of joint use pole lines.

- 4.3 Separation Retween Electric and Telephone Circuits
  - 4.31 The National Electrical Safety Code has established minimum separations between electric and telephone circuits at the support and in the span. For long span construction, additional requirements have been established to provide additional safeguards against contacts under storm loading conditions and during wire stringing operations.
  - 4.32 The minimum separation requirements for long-span construction are outlined in paragraphs 4.33 through 4.37 below and are illustrated in figures 1 and 2.
  - 4.33 The point of Attachment of the telephone conductors at supports is determined by consideration of the separation requirements listed in paragraphs 4.34 through 4.36. The greatest separation required to conform to the requirements of any one of the paragraphs is the separation that must be used.
  - 4.34 The minimum vertical separation between power and telephone conductors at the pole and in the span where the voltage between the power conductors is 8700 volts or less is 40 inches at the pole and 30 inches in the span. (NESC Rule 238A.) For supply conductors over 8700 volts these distances are 60 and 45 inches, respectively. All voltages are the Highest voltage between power conductors.
    - Note: Multigrounded neutral conductors are classified as 0-750 volt conductors when associated with power circuits whose voltages are 15,000 volts or less.
  - 4.35 The minimum vertical separation at the pole of paragraph 4.34 shall be so adjusted that under conditions of 60°F. no wind and <u>final unloaded sag</u>, no supply conductor of 0 to 750 volts (secondary conductors), shall be lower at any point in the span than a straight line (line of sight) joining the points of support of the highest communication conductor on adjacent poles. No supply conductor of more than 750 volts (primary conductors) shall be lower at any

- point in the span than 30 inches above such line of sight.
- 4.36 An exception to 4.35 is made in the case where the supply circuit utilizes a multigrounded neutral conductor at a lower position than primary and secondary conductors. In this situation the line of sight rule of 4.35 does not apply to separation from the neutral conductors. The separation required by 4.34 (40 inches at the pole and 30 inches in the span) does apply to the neutral conductor but the provisions of paragraph 4.35 for phase wire and secondaries must also be met.
- 4.37 The minimum vertical separation at supports between telephone conductors and power system equipment such as transformers is 40 inches.

### 5. CLIMBING SPACE REQUIREMENTS

- 5.1 Since telephone attachments will always be made below the power conductors, the climbing space requirements of this paragraph apply only to telephone attachments.
- 5.2 A climbing space of at least 30 inches square measured horizontally should be provided past any telephone conductors, crossarms or other attachments. The climbing space shall extend at least 40 inches vertically above and below the point of attachment. (NESC Rule 236E.)

# 6. ELECTRICAL PROTECTION REQUIREMENTS

- 6.1 The requirements of this section are based on the use of coordinated electrical protection schemes on the power and telephone systems. Coordinated electrical protection is obtained where:
  - 6.11 The power and telephone circuits are so constructed, operated and maintained that the power circuits will be promptly de-energized, both initially and following subsequent circuit breaker operation, in the event of a contact with the telephone plant.
  - 6.12 The voltage and current impressed on the communication plant in the event of a contact are not in excess of the safe operating limit of the telephone system protective devices.
- 6.2 The protection arrangements called for in section 805 and section 820 of the Telephone Engineering and Construction Manual provide a means of achieving the requirements of

paragraphs 6.11 and 6.12 above and these arrangements should be used in all joint use construction. These arrangements can be summarized as follows:

- 6.21 Provision of approved type of station protectors at each subscriber station grounded, if possible, to the multigrounded neutral.
- 6.22 The use of power contact protectors at the intervals specified in section 820 and inter-connection of the ground lead of the protector in the multigrounded neutral of the power system.
- 6.23 The use of drainage units at proper intervals to reduce induced voltages to safe operating values.

# 7. INDUCTIVE COORDINATION CONSIDERATIONS

- 7.1 Inductive interference with telephone circuits by paralleling power circuits is discussed in section 691 of the manual.
- 7.2 Joint use of poles for power and telephone circuits does not increase materially the noise induction considerations involved with parallels at roadway separations, if care is taken to provide and maintain uniformity of wire separations including avoidance of sag inequalities. The decreased separation obtained in joint use necessarily provides more severe coupling conditions than roadway separation. This is somewhat offset by the improved configuration obtained and the more uniform separation.
- 7.3 REA construction standards for joint use have been designed to minimize induced noise and, if followed, will result in satisfactory operation in the usual situation.

## 8. ECONOMIC CONSIDERATIONS

- 8.1 The primary purpose of utilizing joint poles for rendering power and telephone service is economic. In some instances, joint use may be desirable to solve right-of-way difficulties or structural conflicts irrespective of economies. Joint pole lines are often preferred over two separate pole lines where the pole lines will cross over cultivated farm lands.
- 8.2 The determination of economies in joint use is discussed in detail in REA Bulletin 305-1 and the methods of determining rental payments, form of agreement for Joint Use, etc., are also covered in this bulletin. This bulletin should be consulted prior to undertaking joint use arrangements.

- 8.3 In the usual case, a new pole line constructed expressly for joint use nearly always will afford economies. Because of the prevalence of electric service throughout rural areas at this time, however, few opportunities will be available to obtain joint use under this most favorable condition.
- 8.4 The normal situation that will be encountered is where an existing electric pole line requires modification to make it suitable for joint use. To a large degree, the extent to which joint use in such situations is economical will be determined by the costs of the modifications required. This is primarily a function of pole replacements involved. Paragraph 10 provides a method of estimating pole replacements for clearance or strength reasons in a given situation. This determination, together with the guidance provided in REA Bulletin 305-1, can be used to ascertain whether or not joint use is an economical choice for particular line routes.

#### 9 SAFETY CONSIDERATIONS

- 9.1 The separation, protection and strength requirements outlined in this section are designed to provide safety to life and property under joint use conditions. Experience has shown that conformance with these requirements results in a high degree of safety. None of these requirements can reduce the hazards associated with careless construction practices during wire stringing operations.
- 9.2 Since most joint use will be attained on an existing electric pole line, the telephone wire will necessarily be strung under energized power conductors.
- 9.3 Under such conditions, adequate precautions must be taken to:
  - 9.31 Prevent telephone wires from coming into contact with energized power conductors.
  - 9.32 Prevent injury to workmen in the event such contact does
- 9.4 To achieve the objective of 9.31 requires that the wire be strung with great care and that the pulling tensions be kept low and applied evenly so that the line wires do not tend to swing upward sufficiently to make contact. Relatively short sections of line should be handled at one time. Rollers should be employed at angle points. Observers should be placed at critical points to control the wire stringing. All other precautions generally associated with wire stringing should be employed.
- 9.5 To achieve the objective of 9.32 requires that all personnel handling wire wear rubber gloves tested for 20,000 volts

breakdown. The equipment holding the wire reals should be bonded to the multigrounded neutral of the power system. Each line wire should be tied into the multigrounded neutral before tensioning operations begin. All phases of the operation should be worked out on the basis that the telephone wire is an energized conductor.

- 10. DETERMINATION OF POLE REPLACEMENTS REQUIRED ON EXISTING ELECTRIC POLE LINES
  - 10.1 General: In order to determine whether an existing electric pole line can be utilized to support additional telephone conductors, consideration must be given to several factors. The poles must have sufficient strength to support the additional load and be of sufficient height to permit the required separation to be observed at the pole and in midspan between power and telephone conductors and to provide required ground clearances under telephone conductors in the section of line under consideration.
  - 10.2 Conductor Separation at the Pole: The separation required between power conductors and telephone conductors is an important element to be considered in making a determination as to the suitability of the power line for joint use. For this purpose, a set of tables (RD-Fig. Nos. 18 through 53) is provided to indicate the required separations at the pole between such conductors. The following factors were taken into consideration in the preparation of these tables as well as the minimum separations stated in paragraphs 4.33 through 4.36:
    - 10.21 Pole head configurations of power conductors were assumed to conform to those shown on RD-Fig. No. 16, attached.
    - 10.22 Separations in these tables do not consider transformers or other power equipment that may be mounted below the neutral. The proper separation from such items should be checked in each individual case. See paragraph 4.37.
  - 10.3 Method of Determining Separation: Since it is more desirable to maintain a uniform separation between the power and telephone conductors throughout the section of line than to maintain a uniform clearance of the telephone conductors above ground, the matter of determining pole replacements should be approached from that standpoint. The following method is suggested for determining the separation to be used:

- 10.31 Obtain from the power organization as much information as possible in regard to the section of line under consideration including staking sheets whenever available.
- 10.32 Determine pole head configurations showing relative positions of phase wires, neutral, secondaries, and transformers or other power line pole attachments.
- 10.33 Determine type and gauge of power conductors used.
- 10.34 Determine ruling span, actual spans, and basic pole height use in the power line.
- 10.35 Determine the applicable loading district for the section of line under consideration.
- 10.36 Based on the determinations made above, the applicable separation table should be selected (See RD-Fig. Nos. 18 through 53).
- 10.37 Generally the longest span in the joint use section will dictate the maximum separation that will be required, in some instances, however, a shorter span with underbuilt secondary conductors may require a greater separation. In the ideal situation, this maximum separation would be used throughout the section. A check of the pole line, however, would be necessary to determine if sufficient ground clearance can be maintained throughout the section without excessive pole replacements or additions. As a compromise between a uniform separation and pole replacements, it may be necessary to select a lesser separation that would be adequate for a large majority of the spans and to vary the separation in a relatively few spans in order to prevent excessive pole replacements or additions.

The actual determination of the separation to use is made from a joint consideration of providing uniform separation as nearly as practicable and still provide the necessary ground clearance under the telephone conductor with a minimum of pole changes. A preliminary determination can be made from the staking sheets of the power line and then field checked for proper ground clearance requirements.

10.4 Staking Curves: The attached staking curves, RD-Fig. Nos. 54 through 62 were prepared to facilitate checking of existing pole lines from a clearance standpoint. The following factors

were taken into consideration in the preparation of these curves:

- 10.41 Manufacturers recommended stringing sage for telephone conductors, by loading districts.
- 10.42 Telephone conductors were assumed to be maintained at the initial unloaded sage used in stringing.
- 10.43 Incremental increase in ground clearance requirements of one inch for each 10 feet of span beyond the basic span-for the various leading districts.
- 10.44 Separations at the pole of from 4 to 12 feet in 2 foot intervals, between power line neutral and nearest telephone conductor.
- 10.45 Standard REA power line pole-head configuration with the neutral conductor attached 21.0 feet (for 30-foot poles) and 25.5 feet (for 35-foot poles) above ground.
- 10.5 The following procedure is suggested for determining the suitability for joint use of existing power line poles from a clearance standpoint:
  - 10.51 Based on the required separation at the pole determined in paragraph 10.37, the height of poles involved, the type and grade of telephone conductor involved, and the applicable loading district, the appropriate staking curves (See RD-Fig. Nos. 54 through 62) should be selected and the acceptability for joint use of an existing pole line may be determined. The following examples are provided:

#### Example No. 1

### Conditions:

Telephone Conductor

.102 30% KHS, Copperweld Heavy 8 feet 390 feet Level 30 feet 8 feet

### Solutions

Step 1: Select chart RD-Fig. No. 54 Step 2: Select column for 8 foot basic

ground clearance

In above column, locate 8 foot Stap 3: conductor separation

Locate curve indicated by arrow Step 4: Step 5: Follow curve to point of intersection with "zero" line for a

30 foot pole

Step 6: Drop down vertically from this point to the horizontal scale and read the maximum permissible span length. (Note: In this instance the permissible span length is 398 feet. Since this exceeds the 390 feet established under "conditions," sufficient ground clearance will be available).

### Example No. 2

### Conditions:

Telephone Conductor .102 30% EHS.

Copperwald Loading District Heavy Basic Ground Clearance 8 feet 300 feet Span Length

2-foot ridge Ground under span (midspan)

30 feet Power pole height Conductor separation at pole 8 feet

#### Solution:

Step 1: Select chart RD-Fig. No. 54

Step 2: Select column for 8 foot basic

ground clearance

Step 3: In above column, locate 8 foot conductor aeparation

Step 4: Locate curve indicated by arrow

Step 5: Follow curve to point of intersection with horizontal line representing a 2-foot ridge for a 30 foot pole

Step 6: Drop down vertically from this point to the horizontal scale and read the maximum permissible span length. (Note: In this instance, the permissible span length is 310 feet. Since this exceeds the 300 feet established under "conditions," sufficient ground clearance will be available).

### REA TE & CM 690

### Brample No. 3

#### Condition:

Telephone Conductor .102 30% EHS, Copperwald Loading District Heavy Basic Ground Clearance 10 feet Span Longth 450 feet Ground under span 3-foot depression (midspan) Power pole height 35 feet Conductor separation at pole 12 feet

### Solution:

- Step 1: Select chart RD-Fig. No. 54 Step 2: Select column for 10 foot basic ground clearance
- Step 3: In above column, locate 12 foot conductor separation
- Step 4: Locate curve indicated by arrow Step 5: Follow curve to point of intersection with horizontal line representing a 3-foot depression for a 35-foot pole.
- Step 6: Drop down vertically from this point to the horizontal scale and read the maximum permissible span length.

  (Note: In this instance, the permissible span length is 458 feet.

  Since this exceeds the 450 feet established under "conditions," sufficient ground clearance will be available).
- 10.6 Pole Strength Requirements: In considering joint use on existing electric pole lines, a determination should be made of the number of poles which will require replacement because of insufficient pole strength. The attached charts (See RD-Fig. Nos. 1 through 15), have been prepared to show the maximum permissible span lengths for various classes of poles when considered for joint use of telephone conductors on single-phase (two wire) and three-phase (four wire) power lines. In the preparation of the attached charts, consideration was given to the following:
  - 10.61 Pole Strength calculations were based on a margin of strength of 2.

- 10.62 Power lines were assumed to be REA-type pole-head configurations as indicated on sketch RD-Fig. No. 16, attached.
- 10.63 Average power conductor diameters of .400 inches, .350 inches, .300 inches, .250 inches, and .200 inches were assumed in order to simplify calculations.
- 10.64 Telephone conductors were assumed to be carried on a single crossarm located below the power neutral conductor and with separations from the power neutral as indicated on the charts.
- 10.65 An average diameter of .110 inches was assumed to be representative for the several types of conductors commonly used in REA telephone system construction.
- 10.66 Ice and wind loads on conductors and poles as established in the National Electrical Safety Code were considered for each of the three Loading Districts.
- 10.7 The following procedure is suggested for determining the suitability, for joint use, of existing power line poles from a strength stand-point:
  - 10.71 Determine the number and diameter of the power conductors (phase wires and neutral) involved in the section of pole line under consideration.
    - (Notes: 1. See RD-Fig. No. 17 for diameters of conductors commonly used in REA power line construction.
      - 2. Spans with underbuilt secondaries will require individual study. (See paragraph 10.76).
  - 10.72 Determine the required separation at the pole between power and telephone conductors (See paragraph 10.3).
  - 10.73 Determine the number of telephone conductors proposed in the section of pole line under consideration.
  - 10.74 Determine the applicable loading district for the section of pole line under consideration.
  - 10.75 Based on the determinations made above, the applicable pole strength chart should be selected. A determination of the poles requiring replacement for strength reasons can then be readily made by comparing the actual spans involved with the maximum permissible span for the class of pole involved.

10.76 When underbuilt secondaries are present in a span, the pole class required for that particular span may be checked by considering two additional primary conductors in the span. For example, if a single-phase two-conductor power line is being considered for joint use with two telephone conductors, and in one particular span one or two secondary conductors are in place, the class of pole required for four power conductors and two telephone conductors would be adequate.

(Note: When using this method, if the indicated class of pole falls within the beginning of a higher class pole, a more exact calculation of the class of pole required should be made to avoid unnecessarily changing out a pole.)

- 10.77 For spans requiring a higher grade of construction than that provided by a margin of strength of 2, an approximation of the maximum permissible span for any class of pole can be made by reducing the maximum span indicated for the class of pole involved by the ratio of 2 to the higher factor required.
- 10.78 The results of this study will indicate the frequency of pole replacements for strength reasons. These replacements should be combined with pole replacements required for clearance reasons (See paragraph 10.5) to determine the effects on economies of joint use. It is important to keep in mind that some poles replaced for strength reasons might also have to be replaced for clearance reasons. The total pole replacements, therefore, will not necessarily be the sum of the two, but a lesser figure.

(Note: Where the pole replacements or additions exceed an average of 2 per mile of line, the economics of joint use should be carefully reviewed.)

#### 11. STAKING OF JOINT USE LINES

Il.1 It is assumed in these paragraphs that the power line is already constructed and staking sheets are being prepared to cover the addition of telephone plant to these poles. The construction of new joint use lines poses a different staking problem in that the staking of poles would be adapted to fit both the telephone and power conductors. In the case at hand, the line was staked to fit the power conductors and the telephone wires must now be fitted to these existing poles.

# 11.2 Separations and Clearances

- 11.21 The separation between the multigrounded neutral and the point of attachment of the telephone crossarm has been determined in accordance with paragraph 10.37 based on the section of line under consideration. This same separation should be maintained at every pole if possible. If this is not possible in some spans due to insufficient clearance above the ground, the separation between the multigrounded neutral and the telephone crossarm may be reduced sufficiently to obtain the necessary ground clearance in those spans. In no event should the separation be reduced to the point where less separation is obtained than is specified in paragraphs 4.34 through 4.37.
- 11.22 The staking engineer must examine each span and test for ground clearance using the previously determined separation. This is done by checking the span against the Staking Curves (RD-Fig. No. 54 through RD-Fig. No. 62) for the particular telephone conductor, pole height and storm loading district involved. (See examples in paragraph 10.51.) If the ground clearance is adequate, the engineer indicates on the staking sheet the point at which the telephone crossarm should be attached. If the ground clearance is not adequate, the engineer determines at what additional height the attachment would have to be made in order to provide ground clearance. He must then check to determine the adequacy of this reduced separation from the multigrounded neutral. This is done by checking the minimum separation required for the type of telephone conductor, type of power conductor, ruling span, actual span and storm loading district involved (RD-Fig. No. 18 through RD-Fig. No. 53.) If the separation needed to give sufficient ground clearance is less than the minimum, rearrangement of the power line equipment or installation of a higher pole will be required at that point.

# 11.3 Joint Use Pole Top Assembly Units

The pole top assembly units and wire support units described briefly in the following paragraphs with recommendations as to their application to joint use construction are described in detail in section 625 of the Telephone Engineering and Construction Manual with appropriate ratings as to the loads which these units will safely support. These units and other units which are to be used in joint use construction must be prefixed with the letter "N" in accordance with the instructions relating to joint use in the "Telephone System Construction Contract."

11.31 Unit PB1-4 - This is a 30" two-pin crossarm mounted as an extension arm and supported by a 30" wooden crossarm brace to carry two telephone wires on one side of the pole. This method of attachment was chosen in order to leave the other side of the pole clear to meet climbing space requirements and to provide horizontal configuration of the telephone conductors for transposition and inductive coordination reasons. This unit is used in conjunction with a T-1 or T-2 unit for tangent and angle pole construction.

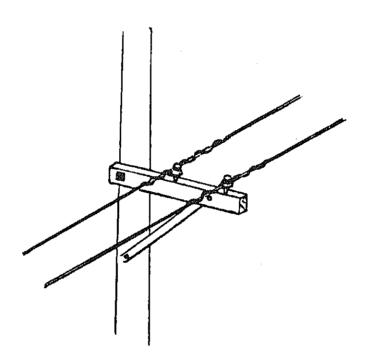


Figure 4 - PB1-4 Unit

11.32 Unit PB1-1 - This is an 18" two-pin crossarm mounted on the pole in line with the telephone wires. It is used with a T-3 unit to achieve a tandem transposition in tangent construction and at small angles.

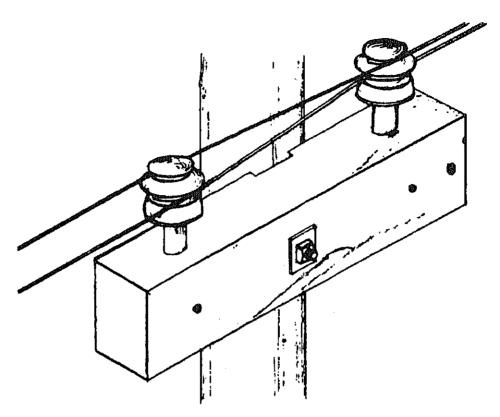


Figure 5 - PB1-1 Unit

- 11.33 Unit PB1-3 This is an 18" two-pin crosserm with a 20" crosserm brace mounted on the pole in line with telephone wires. It is used in conjunction with a T-3 or T-4 unit to achieve a tandem transposition at angle poles where the angle turned exceeds 5 degrees.
- 11.34 Unit PAL-5 This unit consists of two deadend clevices equipped with insulators and mounted vertically on the pole. This unit is used to deadend a single circuit.
- Unit PB3-1 These are six-pin type A and ten-pin Unit PB5-1 These are six-pin type A and ten-pin type A crosserm units, respectively. They are used in joint construction where the circuit requirements exceed one circuit. It should be noted that the PB3-1 can be used to support only four wires since pin positions 5 and 6 must be left vacant in order to provide climbing space. Similarly, the PB5-1 unit can be used up to eight wires with pin positions

5 and 6 vacant. These units are specified because they provide 12" pin spacing which is necessary in spans longer than 250 feet. These units are used in tangent and angle construction in conjunction with units T-1, T-2, and T-6 and T-7.

- 11.36 Unit PB5-6 This is a deadend crossarm unit and is used to deadend from four to eight wires with pin positions 5 and 6 left vacant. Deadend clevis assembly unit T-5 is used with this unit.
- 11.37 Unit PB5-8 Deadend crossarm assembly unit equipped with back truss and used as above with pin positions 5 and 6 vacant.
- Unit PB3-3 These are six-pin type B and ten-pin type B crossarm units, respectively. They will accommodate 6 wires or 10 wires with 30" climbing space provided. The pin spacing is reduced to 10". These crossarms, therefore, should not be used when the span lengths exceed 250 feet.
- 11.39 Appropriate units should be specified where double crosserms, sidearms or other special construction units are needed.

### 11.4 Explanation of Sample Staking Sheet

The section of power line shown in the sample staking sheet (Fig. 3) assumes that the line is in the medium loading area; it is single phase; #4 7/1 ACSR, 542' ruling span, 35 foot class 7 poles except angle and transformer poles which are class 6. Secondaries are present between P. 8 and P. 9. It is proposed to add two telephone circuits from P. 1 to P. 5 where one circuit leaves this route to serve a side road. The remaining circuit continues to P. 10 where it terminates. The telephone conductor will be .109" diameter, Grade 135 steel. Ground clearance for the telephone conductors varies since part of the line is built along open fields while the other part is constructed in a fence line. (See section 602, TE & CM.) The R1 transposition system will be used. (See section 661, TE & CM.)

11.41 The longest span in this section of line is 475 feet. Reference to RD-Fig. No. 27 indicates that 5 feet of

vertical separation between the multigrounded neutral and the telephone crossarm will be required for this span length. This same separation will be maintained in all span lengths if it is possible to do so but the separation will be adjusted as needed to meet other conditions. The required pole strength is checked by reference to RD-Fig. No. 8. It is found that no poles will have to be changed for insufficient strength.

11.42 This line starts at P. 81, Route 14, but no guying can be installed at this point so the circuits are extended to P. 1, Route 17 by outside distributing wire and two 150 foot 114 units are specified. At P. 1 a deadend crosserm unit NPB5-6 is specified and guying is provided by an NPE1-3G. The guy is grounded to the multigrounded neutral for electrical protection (See TE & CM, section 650.) The span from P.1 to P. 2 is 445 feet over level ground and 14 foot ground clearance is required so 5 foot separation is specified after verifying that sufficient ground clearance will be obtained with this separation. This is done as follows:

In RD-Fig. No. 58, under the "Basic Ground Clearance" heading, the 14 foot column is selected. Going down this column to the 5 foot mark, the curve opposite this mark is selected and followed to the intersection with the horizontal line representing a 35 foot pole. The point of intersection occurs at 495 feet, indicating that a level ground span of 495 feet would be the maximum permissible. Since the actual span is 445 feet, 5 foot separation is satisfactory.

- At P. 1 it is also necessary to verify that the LL4 units can be attached to the pole at sufficient height to obtain the necessary 18 foot road crossing clearance. Since the point of attachment for these units need be only 40 inches below the neutral, these units can be attached 22 feet above the ground which will meet the road crossing requirement.
- 11.43 At P. 2 an NPB3-1 unit with two NT-1 units is specified.
  (Transposition units are not installed until P. 3 since the deadend crossarm provides a wire spacing of only 6 inches.) The span length between P. 2 and P. 3 is 420 feet with a 1 foot ridge at midspan and 14 foot

- ground clearance is required in this span so 5 foot separation is again specified.
- 11.44 At P. 3 and P. 4 the proper units are specified with 5 foot separation indicated.
- At P. 5, one circuit makes a right angle turn while the other circuit continues on the same route. The circuit which serves Route 21 must cross the road with 18 foot clearance. We are interested now in the span from P. 5, Route 17. to P. 1, Route 21, which is also joint construction. This span is actually 410 feet. A 410 foot span requires 4 1/2 feet of separation at the pole. Through reference to RD-Fig. No. 58, it is determined that 18 foot basic clearance (19.6 foot actual clearance) cannot be obtained in a 410 foot span at midspan over level ground. Rule 232B of the NESC permits reduced clearance if the crossing does not occur at midspan. Application of this rule shows that if the point of crossing occurs within 70 feet of P. 5, we will need only 18 feet of clearance. This means that we should attach the unit (NPAl-5) which supports this circuit 4 1/2 feet below the neutral which would place it 21 feet above ground on a 35 foot pole, and thus provide the necessary road clearance. If the point of crossing occurred at a distance greater than 70 feet, it would be necessary to place a 40 foot pole at this location. The crossarm unit NPB1-1 which supports the other circuit should be attached 5 feet below the neutral. It should be noted that #14 gauge bridle wire is specified at this point. This is necessary since no power contact protectors have been installed on this circuit between P. 1 and P. 5. It is assumed that they will be installed on this circuit somewhere along Route 21. This means that a contact occurring between P. 1 and P. 5 would cause the protector on Route 21 to operate and the bridle wire would have to carry the fault current.
- 11.46 At P. 6 an NPBl-4 unit is specified attached 4 feet below the neutral and at P. 7 an NPBl-1 unit is specified 4 feet below the neutral. The reduction in separation is required to give the necessary road crossing clearance. RD-Fig. No. 27 shows that these separations are not less than the minimum required for a 370 foot span.

- 11.47 At P. 8 it is necessary to increase the separation to 8 1/2 feet in order to clear the secondaries at this pole. This section of the line is built in a fence line so a minimum ground clearance of 8 feet is acceptable in this span. Reference to RD-Fig. No. 58 shows that sufficient ground clearance can be obtained with 8 1/2 foot separation. A power contact protector (NP4-1) is specified at this point. This is approximately 1/2 mile from the start of the joint use section of line. (See section 820, TE & CM.)
- 11.48 At P. 9 and P. 10 the same procedure is carried out to establish the separation which must be specified at these points. The ground clearance must be verified in each span as above.
- 11.5 Careful attention to details in staking joint use lines is necessary if full economy is to be realized from this type of construction. It should be recognized that this type of staking should not be undertaken without complete familiarity with the provisions of the NESC relating to joint use, with the EEI publications on joint use (paragraph 2.2) and with the provisions of this section and other pertinent sections of the REA Telephone Engineering and Construction Manual.



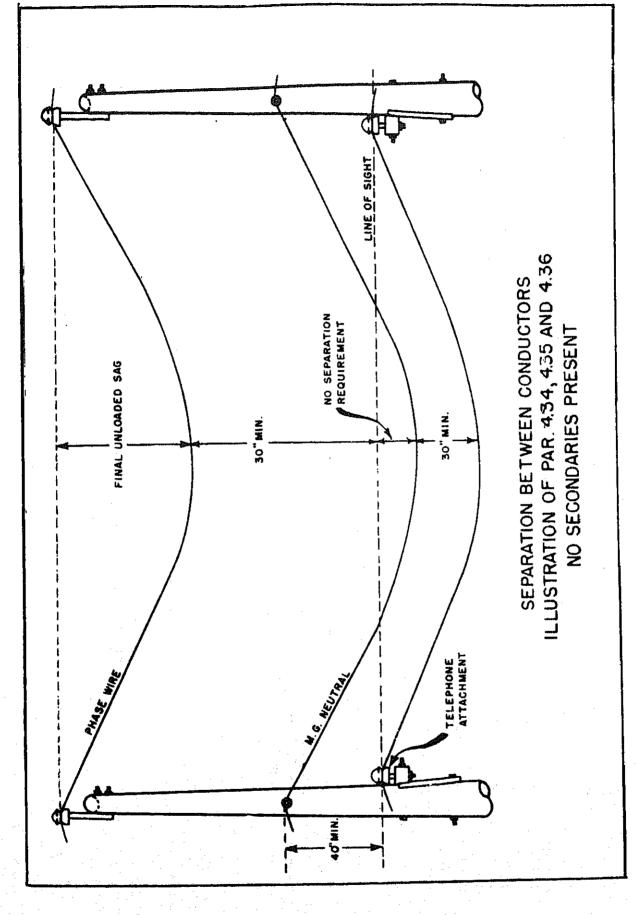


Figure 1

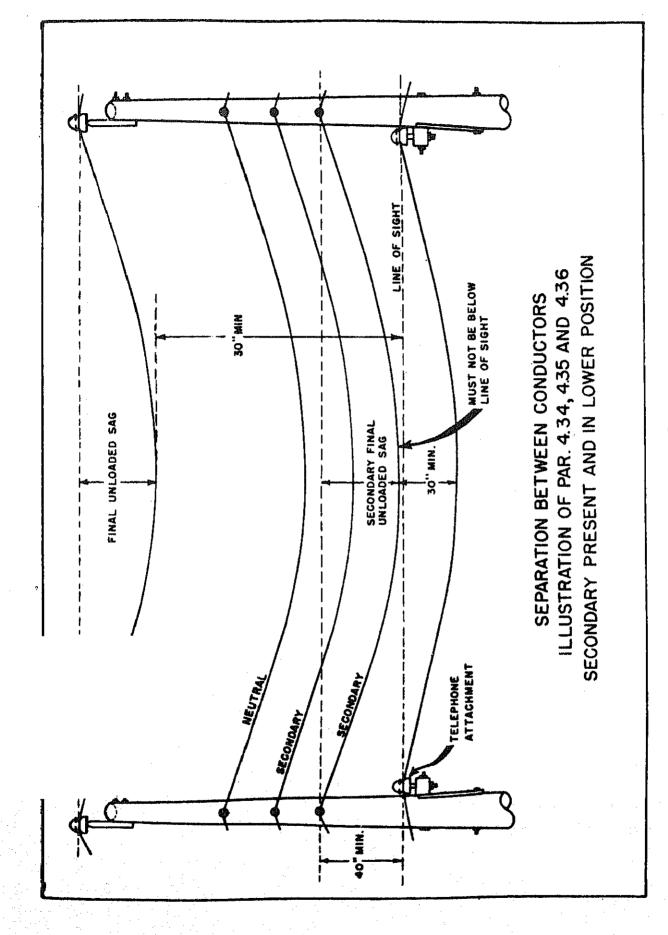


Figure 2

### MAXIMUM SEPARATION AT POLE

The following table indicates the maximum separation permissible between power neutral and telephone conductors, at the pole, for the basic ground clearances shown:

|                           | Maximum Separ   | ation at Pole   |
|---------------------------|-----------------|-----------------|
| Basic Ground<br>Clearance | 30 Foot<br>Pole | 35 Foot<br>Pole |
| 81                        | 13'             | 17.5            |
| 10 •                      | 11'             | 15.5            |
| 12 •                      | 91              | 13.5'           |
| 14'                       | 7*              | 11.5'           |
| 15*                       | g·              | 10.5            |
| 18'                       | 31              | 7.5'            |

#### REFERENCE DATA

RD\_FIGURE NO. 1 THROUGH RD\_FIGURE NO. 15

Maximum Spans for Joint Use by Class of Pole

RD-FIGURE NO. 16

REA Pole Head Configuration

RD\_FIGURE NO. 17

Diameters of Commonly Used Power Conductors

RD-FIGURE NO. 18 THROUGH RD-FIGURE NO. 53

Vertical Separation Tables for Telephone Underbuild on REA Electric Poles

RD\_FIGURE NO. 54 THROUGH RD\_FIGURE NO. 62

Staking Curves for Telephone Underbuild on REA Electric Power Lines

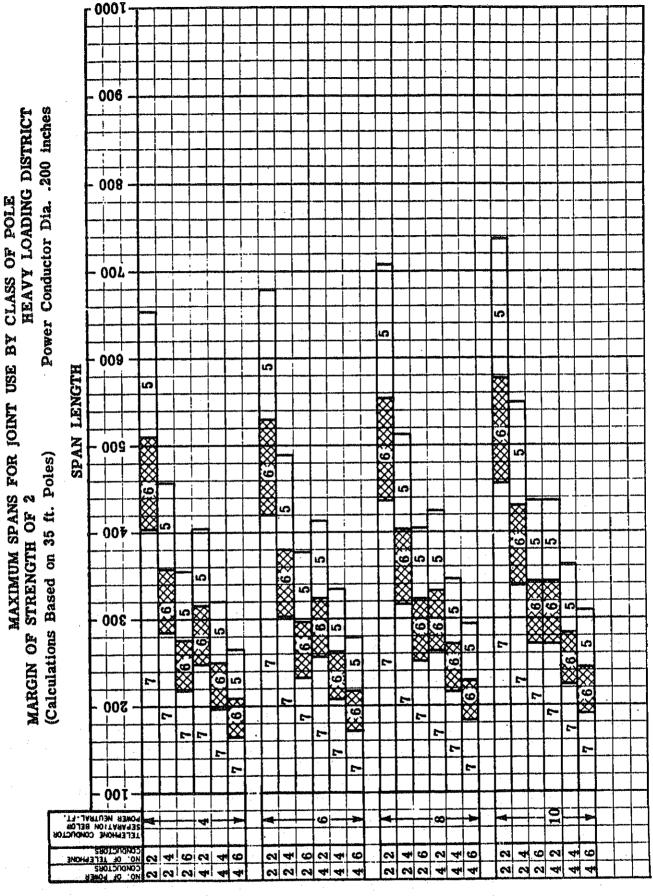
RD\_FIGURE NO. 63

Maximum Separation at Pole

| BRETCH & NOT                          |                  | NC TES | .          |           | STA.<br>EQUIP.         | 1-15        | 51-1       |             |  | _ |  |      |
|---------------------------------------|------------------|--------|------------|-----------|------------------------|-------------|------------|-------------|--|---|--|------|
| Je                                    | 8 9 10           | ACTES  | SHEET MO.  |           | PROT.<br>UNIT          | भार         | R-8        | ,           |  |   |  |      |
|                                       | ,                |        | # <b>9</b> | DATE      | DROP<br>WIRE<br>W 18   | 170,        | 145'       |             |  |   |  |      |
|                                       |                  |        |            |           | P.1K<br>POS1-<br>TIONS | 3/4         | ;          |             |  |   |  |      |
|                                       |                  |        |            |           | CABLE                  | 23          | :          |             |  |   |  |      |
|                                       |                  |        |            |           |                        | 2#          | ;          | umits       |  |   |  |      |
|                                       |                  | Ta 3/4 |            |           | O.ASS<br>SER.<br>VICE  | <b>9</b> R  | :          |             |  |   |  |      |
|                                       |                  | R1, 21 | SHEET      | BY        | NEW<br>TEL.            | 2764        | 2762       | ave "N      |  |   |  |      |
| Delevan<br>Re                         |                  |        | HENT       | PREF ARED | 원<br>구 · · · · · ·     | 1           | ı          | unite       |  |   |  |      |
|                                       |                  |        | SSIGNMENT  |           | POLE                   | 80          | 0          | U<br>X<br>X |  |   |  |      |
|                                       | 7                |        | AS         | COUNTY    | ADDRESS                | H. 11 Rd.   | 2          | Note: Drop  |  |   |  |      |
| · · · · · · · · · · · · · · · · · · · | PR.              | DATE   |            |           | NAME                   | C. H. Brown | R.E. Janes |             |  |   |  |      |
|                                       | EET NO. <u>1</u> |        |            | EXCHANGE  | 20 20 CO               |             |            |             |  |   |  |      |
|                                       |                  |        |            |           |                        |             |            |             |  |   |  | <br> |

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RD-Fig. No. 1



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HEAVY LOADING DISTRICT

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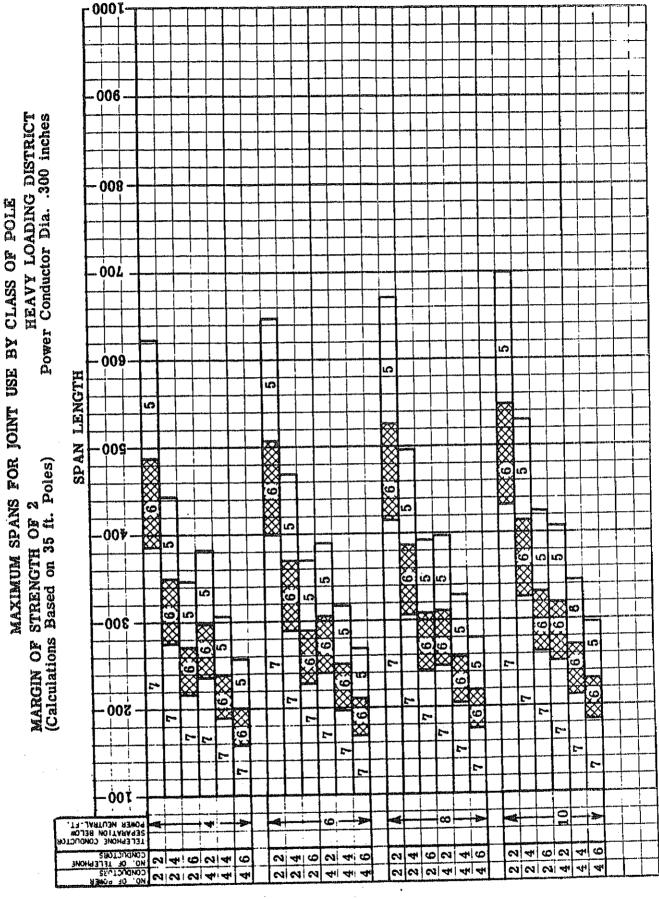
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Power Conductor Dia. .250 inches

RD-Fig. No. 2

RD-Fig. No. 3



006 HEAVY LOADING DISTRICT Power Conductor Dia. .250 inches 008 004 S 009 5 SPAN LENGTH က 5 200 (Calculations Based on 35 ft. Poles) S MARGIN OF STRENGTH OF 2 001 **∞** 9 **∞** Ŋ 2 5 **∞9 ∞ ∞** Ŋ X6XXX **⊗**€ 300 ⊗6⊠ 89%S 200 **89**× (9)-6 -100 I CONDUCTOR

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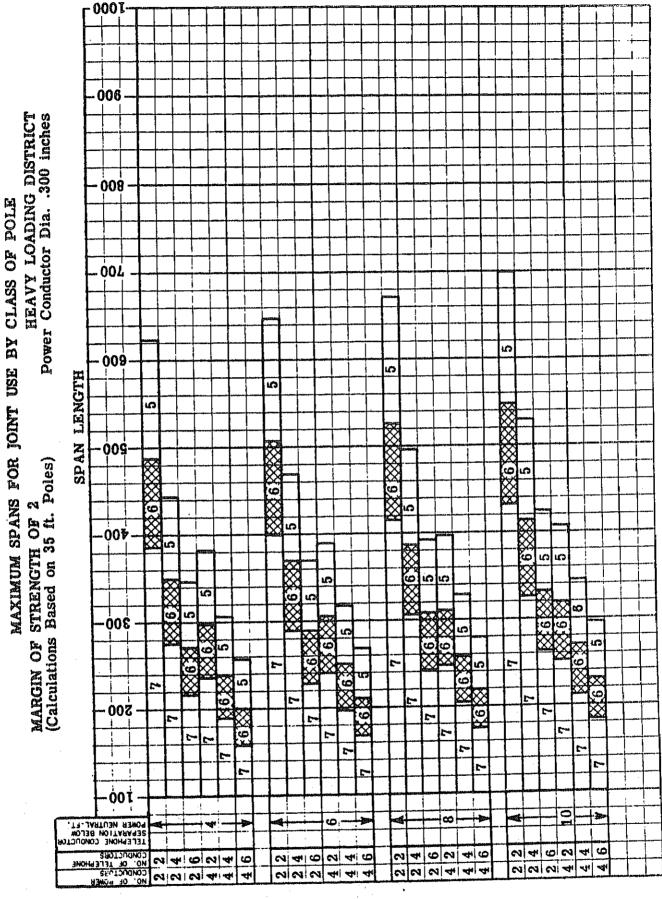
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MAXIMUN SPANS FOR JUINT USE BY CLASS OF POLE

RD-F1g. No. 2

RD-Fig. No. 3



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HEAVY LOADING DISTRICT

I USE BY CLASS OF POLE

MAXIMUM SPANS FOR

MARGIN OF STRENGTH OF 2

RD-Fig. No. 4

1000 006 HEAVY LOADING DISTRICT Power Conductor Dia. .400 inches 008 INSE BY CLASS OF POLE 004 009 LC) SPAN LENGTH r) ın MAXIMUM SPANS FOR J. 009 (Calculations Based on 35 ft. Poles)  $\overset{\cdot 9}{\otimes}$  $\times$   $\times$   $\times$   $\times$  $\times \times \times 9 \times \times$ MARGIN OF STRENGTH OF 2 00% 5 S  $\otimes \otimes \otimes$ 5 က်  $\times \times 9 \times$ Ŋ S S 300 S L ß 200  $8.6 \times 15$  $\bowtie 9 \bowtie$ -001 NO. OF POWER
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T USE BY CLASS OF POLE

MAXIMUM SPANS FOR

RD-Fig. No. 6

|                             |  | ſ      |                       |            |          |          |              |               |             | I           |           |  |                             |             | $\Box$                          | $\Box$                    | _         | _]                 |          |  |                             |               |                                 |          |                              |          |              | _  |              | $\Box$   |                            |              |                     |             |
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| Q.                          | .250 inches  |        |                       |            |          |          | _            |               |             |             | 4         | -  | _                           | -           | _                               |                           |           | _                  | $\dashv$ | _                                      | -                           | _             | _                               | $\dashv$ | -                            |          |              |  |              | ᅴ  |                            | $\dashv$     | _                   | -           |
| Ž                           | 9 2  | ŀ      | +                     | +-         |          |          | _            |               | 十           | +           | $\dagger$ | _  |                             |             |                                 |                           |           |                    |          |  |                             |               |                                 |          |                              |          |              |  |              |  |                            |              |                     |             |
| e 2                         | 2 %  | ļ      | 006                   |            |          |          |              |               |             |             |           |  |                             |             |                                 |                           |           | _                  |          |  |                             |               |                                 | _        |                              | -        |              | 4  |              | $\dashv$   |                            | -            | $\dashv$            | ÷           |
| POLE                        | MEDIUM LUADING DISTRICT<br>Power Conductor Dia250 inches | ŀ      | _                     | ╀          |          |          |              | _             | ┪           | +           | +         | +  |                             | $\dashv$    |                                 |                           |           |                    | -        |  | $\dashv$                    |               |                                 |          |                              | -        |              |  |              |  |                            | $\exists$    | $\perp$             |             |
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| Ş                           | 2<br>Poles)  | SP     |                       | _ 🔆        | 1_       |          |              |               |             | -           | _         | ₩  |                             |             | _                               | H                         |           |                    | <u> </u> | ×                                      |                             | _             |                                 |          |                              |          |              | -  |              | 5  | ×                          |              |                     |             |
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| PA1                         | ار<br>ان و   |        | 009                   | X          |          | E        | $\bigotimes$ |               |             |             |           |  | $\stackrel{\times}{\times}$ |             | $\overset{\infty}{\Rightarrow}$ | 5                         |           |                    | i        | _                                      | 98                          | _             | $\overset{\otimes}{\mathbb{R}}$ | 5        |                              |          |              | <u> </u>   | 簽            | $\propto$  | $\overset{\circ}{\otimes}$ | $\vdash$     |                     |             |
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| MAXII                       | PRE<br>ase   | . •    |                       | +          | ×        | <u></u>  | ×            | $\otimes$     | 2           |             |           | -  | 缀                           | ×           | ř                               | $\overset{\sim}{\otimes}$ | F         | =                  | i        |  |                             | $\otimes$     |                                 | ě        |                              |          |              | 上  |              | $\otimes$  |                            | $\bigotimes$ | $\boxtimes$         | 2           |
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|                             | MARGIN OF STRE<br>(Calculations Base                     | Ì      |                       | 7          |          | X        |              | Ľ             | 863         | П           |           |  |                             |             |                                 |                           | 9<br>※    | Ŕ                  |          | _                                      | 2                           | •             |                                 | _        | $\overset{9}{\otimes}$       | X        | _            | ┨  | ┞            | <u> -</u>  | L                          | <del> </del> | 8                   | (9<br>⊗     |
|                             | N SE   |        | 00                    | €-         | -        | -        | $\vdash$     | -             | <b></b>     | ×           |           | -  | -                           | -           | $\vdash$                        | ╁                         | ×         | $\frac{\times}{9}$ | 1        | -                                      |                             | -             | -                               |          |                              | %<br>⊗   |              | <del>                                     </del> |              | 士  | -                          | -            |                     |             |
|                             | <b>Z</b> \( \)   | ,      |                       | 1          | 1        | 7        |              |               | T           | 9<br>8<br>8 |           |  | <b> </b>                    |             | 2                               | +                         | 1         | 8                  |          | _                                      |                             | -             | L                               | -        |                              |          | $oxed{\Box}$ | F  | <u> </u>     | <u> </u>   | Ŀ                          | <u> </u>     | 7                   | Ļ           |
|                             |  |        |                       |            | -        | -        | F            | -             | <b>†</b>    | 7 🕅         |           | -  | $\vdash$                    | -           | -                               | 2                         | -         | 7                  | +        | ╁                                      | ╁                           | -             | f                               |          | 7                            | -        |              |  | L            |  | L                          |              |                     | É           |
|                             |  |        | 00                    |            | 1        |          |              | Ė             | Ė           |             |           |  | L                           |             | L                               |                           |           |                    | T        |  |                             | L             |                                 | L        |                              | L        |              | L  |              | igspace  | L                          | L            | L                   | Ĺ           |
| 1                           | .13.4  | A9TU3  | M 63 M                | Od         | _        | - ;      | - 4          | ·<br>•        |             |             | <u> </u>  |  | <u>.</u>                    |             | _ إ                             |                           | :<br>     |                    | +        |  | -                           | <u>!</u>      | ac                              | -        | -                            | <u> </u> | +            |  | -            | +  | 10                         | 1            |                     | 1           |
|                             | MOUCTOR<br>ELOW  | NE CO  | CEPHO<br>TARAS        | 31<br>35 — |          |          | - 1          | !             | <u> </u>    |             |           |  |                             |             | I                               |                           | -         | <del></del>        | 1        |  |                             | I             |                                 | ţ        | 1                            |          | I            | L  | 1            | L  | 1                          | _            |                     | -           |
|                             | HOME   | малат  | NDUCT<br>NDUCT<br>TOU | าผา        | -        | 2 C      |              |               | <del></del> |             | -         | -  |                             | oc<br>II oc | -}                              | -                         | 4.4       | _                  | ━        | _                                      |                             |               |                                 | 1 4      |                              | 14       | +-           | 2  |              | ې<br>پ   | 1 4                        |              | 4 6                 | 1           |
| ļ                           | L  | dano   | ÚŁ                    | <u>ښ</u> و | 15       | 416      | - 4          |               | 4           | 1.4.        | <u></u>   | <u> </u>                                     | 144                         | -           | .T.,                            | . 4                       |           |                    | - 1      | `ـــــــــــــــــــــــــــــــــــــ | 1 -                         |               |                                 | <u></u>  | <u></u>                      |          | <u> </u>     |  |              |  |                            |              |                     | ببجيش       |

MEDIUM LOADING DISTRICT MAXIMUM SPANS FOR JOINT USE BY CLASS OF POLE

MARGIN OF STRENGTH OF

(Calculations Based on 35 ft. Poles)

Power Conductor Dia. .300 inches

000T 006 -008 K) 004 S SPAN LENGTH ഹ 009 r) r) G 200 ro **%9** 00₺ Ľ. 300 Ľ Ċ-300 TELEPHONE CONDUCT SEPARATION BELOW SOMER NEUTRAL FT. 2 <del>4</del> 2 00 কা ক 2 4 ত তা থা কা ক 411 (D) (D) M 4:00 00 2 2 2

Ċ(

RD-Ffo. No.

MAXIMUM SPANS FO

MARGIN OF STRENGTH OF 2 (Calculations Based on 35 ft. Poles)

MEDIUM LOADING DISTRICT Power Conductor Dia. .350 inches INT USE BY CLASS OF POLE

|                       |  |               | - LATES              | - P-1          | -              | T            | 1   | T            | es mead       |  | NATE OF STREET                          |                    |          |             |                         |                             |                |                 |              |          |                |             | أحس      |               |              | _ _          |          | _  |              |              | ļ            | <u> </u>     |              | <u> </u> |
|-----------------------|--|---------------|----------------------|----------------|----------------|--------------|---|--------------|---------------|--|---|--------------------|----------|-------------|-------------------------|-----------------------------|----------------|-----------------|--------------|----------|----------------|-------------|----------|---------------|--------------|--------------|----------|--|--------------|--------------|--------------|--------------|--------------|----------|
|                       | ├  |               |                      | -              | _              | -            | 1   | ļ            |               | 1  |   |                    | T        |             |                         |                             |                |                 |              |          |                |             |          |               |              |              |          | _  | _            |              |              | <u> </u> _   |              | <u> </u> |
|                       |  |               |                      | <del> </del>   |                | <del> </del> |   | <del> </del> | -             | <del> </del>                                     |   | 1                  | 1        |             | 7                       |                             |                |                 |              |          |                |             |          |               |              | <u>.  </u>   |          |  |              | _            | ļ            |              | _            | _        |
| -                     | <del>                                     </del> |               |                      | -              | <del> </del> — | -            |   | 十            | +-            | <del>                                     </del> |   | 1                  |          |             |                         |                             | 7              |                 |              |          |                |             |          |               |              |              |          |  |              |              |              |              |              |          |
| -                     |  |               |                      | <del>  -</del> | ├              | ┼─           |   | -            |               | ╁╌   |   | †                  | -        |             |                         | 1-                          | 7              |                 |              |          |                |             |          | $\neg$        |              |              |          |  |              |              |              |              |              |          |
| 00                    | 01   |               | C. Laborator         | -              | -              |              | -   | -            | -             | <del> </del>                                     | -                                       |                    | ra water |             |                         |                             | ******         | -               | ALIAN-       | -        | 1              | 400 35 0 46 |          |               |              |              |          |  |              |              | i            |              |              |          |
|                       | <del> </del>                                     | <b> </b> -    |                      | <del> </del>   | <del> </del>   |              | -}-   | ╁╌           |               | ╂  | -                                       |                    | -        |             | -                       | - -                         |                | <del> </del>    |              |          |                |             |          |               | $\neg$       |              | _        |  |              |              |              |              |              |          |
| <b> </b>              | <u>ļ                                    </u>     | <u> </u>      | i<br>                | <u> </u>       | ╁              | -            |   |              |               | -  | <del> </del> -                          |                    | -        |             |                         |                             | -              | -               |              | _        | -              |             |          |               |              |              |          |  |              |              |              |              |              |          |
| ļ                     |  | ļ             | <u> </u>             | ļ              | <b>↓</b> _     | ļ            |   |              | _             |  |   |                    |          |             |                         | -                           |                |                 |              |          | -              |             |          |               |              |              |          | _  |              |              |              | 1            |              |          |
| _                     | <del>}</del>                                     | _             | <u> </u>             | <u> </u>       | ļ              | 4_           | _   | -            | _             | <u> </u>   | _                                       | _                  |          |             | - -                     |                             | -              |                 |              |          | ├─             |             |          | -             |              |              |          |  |              |              | <del> </del> | <del> </del> |              | _        |
| lo                    | Óв   |               | <br>                 |                | <u> </u>       |              |   | _            | -             |  |   | <u> </u>           |          |             |                         |                             |                | -               | <br>         | 2022045  | -              |             | -        |               | ESERTA       |              |          |  |              | _            |              | +            | -            | ╁┈       |
| Ľ                     | 1  | 1_            | 1                    |                | _              |              |   | _            |               | 1_   | _                                       | _ _                | _ -      |             | -                       | -                           |                |                 |              |          | -              |             |          |               |              | F=           |          |  |              |              |              |              | -            | -        |
|                       | <br>   | Ĺ             | <u>L.</u> .          | 1              |                |              |   |              |               |  | L                                       |                    | _        | _           |                         | _ _                         | _ _            |                 |              | ļ        | ļ              |             |          | -             |              | ⊢┤           |          |  |              |              | ļ            | ╁╴           | +-           | ┼        |
|                       | 1  | 1             | 1                    |                | 1              |              | _ _   | _            | 1             | L  | L                                       |                    | -        |             |                         | _ _                         | _              |                 | <b>i</b>     | <u> </u> | <del> </del>   |             |          |               |              |              |          |  |              |              | -            | ╁            | +            | -        |
|                       | 1  | T             | Γ                    | T              |                |              |   |              | 7             |  | 1                                       |                    |          | _ _         |                         |                             | _ _            | 丄               | ļ            | _        | _              | <u> </u>    | ļ        |               |              | $\square$    |          |  |              |              | <del> </del> |              |              | ┼        |
| T_                    |  | 1             | 1                    | 1              | 1              |              |   | Ţ            |               |  | Ī                                       | 1_                 |          |             |                         |                             |                |                 |              |          |                |             |          | ļ             | 4400         |              |          |  |              | ببسيي        | ـــ          | -            | _            | -        |
| ł                     | Ó8   | <b>†</b>      | <b></b>              | 1              | †"             |              | -   |              |               | 37.F.36  | -                                       | 7                  | T        | _           |                         |                             |                |                 | <u> </u>     |          | 1              |             |          |               |              |              |          |  |              | _            | 1_           |              | ┷            | ┼        |
| -                     | 1-   | <del>- </del> | ┼─                   | +              | †              | +            | Ť   | Ť            | <del></del> - | 1  | T                                       |                    |          |             | 7                       |                             |                | _               |              |          |                |             |          |               | _            | r)           |          |  |              | <u> </u>     | <u> </u>     | _            | ┷            | <u> </u> |
| -                     | -  |               | -                    | ╁              | +              | $\dashv$     | +   | +            |               | - -  | T                                       | _                  | 十        |             | _                       |                             | 1              | 2               | Ī            | Γ        |                |             |          |               |              |              |          |  |              | L            | 1            |              |              | 1        |
|                       | -  | <del> </del>  | ╁                    |                | +              | +            | +   | +            | _             | 十  | T                                       | _                  | +        | _           | _                       |                             |                | T               | Π            | Γ        | Ţ              |             |          |               |              |              |          |  |              |              | 1            |              |              |          |
| -                     | <del>-</del>                                     |               | ╁                    |                | ┨              |              |   | -            |               | ╌  | ╁                                       |                    | _        |             |                         | _ -                         | _              |                 | 1            |          | _              |             | <u> </u> |               | Γ            |              |          | Γ  | $\Box$       |              | 1_           |              |              |          |
| ŀ0                    | 04   | -             | ┿                    |                | <b></b>        |              |   |              |               |  | -                                       | -                  |          |             | ~                       |                             | -              |                 | ή≕           | T        | -              |             | 1        |               |              |              |          |  | Γ            | Г            | T            | T            |              | ]_       |
| 1-                    | -}   |               | +                    |                | ╀              | -            |   |              |               | - 10   | +-                                      |                    |          |             | 一十                      |                             |                | ┰               | †-           | ┪        |                | -           | ╁        | -             | ┪            | X            |          | <u> </u>   |              | Γ            | T            |              |              | T        |
| ;  <u>-</u>           | ╀-   | ٠             | +                    | -              | +              |              |   | -            |               |  | ╬                                       |                    |          | ┯┢          | -+                      |                             |                | -12             | <b>3</b>     | ╁╌       | +-             |             | ┼        |               | 1            | 燹            | 2        | <del>                                     </del> |              | +            | 1            |              |              | -        |
|                       | <u> </u>   | (4)           | 1                    | _              | _              | -            |   | -            |               | _ -  |   |                    |          |             |                         |                             |                | - <del> X</del> | <b>}</b>     | ╁        | 10/65          | <u></u>     | ┼        |               | +-           |              |          | 一  | †            | t            | +            | ┪            | -            | _        |
| 1                     |  |               | 1_                   |                |                | _ _          | _   | _            |               | _L   | ֡֡֟֡֟֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֟֡֡֡֡֡֡֡֡֡֡֡֡֡ | 7                  |          | -           |                         |                             |                | - }             | <b>}</b>     | ╁┈       | -}             |             | +        |               | ╬            | <b>⊗</b>     | ┝        | _  | <del>_</del> | 十            | +-           | ╅            | +            |          |
| 1                     | 9  | ۱.            |                      |                | -              | -            |   |              |               |  | ₫.                                      |                    | _        |             | _                       |                             |                |                 | 316          | 4-       | -              | -}-         | -        |               | ╁╾           | $\bigotimes$ | ╂        | ╁╌   | -            | ┿            | +-           |              |              |          |
|                       |  |               | _                    |                | 1_             | $\perp$      |   |              |               | _X   | <u>X</u> .                              |                    |          |             | _                       |                             | <u></u>        | - XXXXX         | )<br>        | ļ.,      | - L            | . -         | ┼        | ╬             | ┼            | -8           | <b>├</b> | ╁  | -            | +            |              | _            |              |          |
| 4                     |  |               | 3                    |                |                |              |   | _[           |               | _ Š  | ₫.                                      |                    |          |             |                         | _                           | _              | _8              | <u> </u>     | $\bot$   | 4              | 1_          | -        |               | ┿            | ₩            | *        | 4  | (2)          | ┢            | ┪~           |              | -            | -        |
| 1                     | 1  |               |                      | 1              |                | Т            |   |              |               | K  | 1                                       | ro                 |          | S           |                         |                             |                | _8              | <u> </u>     | _        | _              | _=          | 4_       | -             | <del> </del> |              | 怒        | <u>}</u>   | 4_           |              | - -          | -            |              |          |
|                       | _  | Ī             | Du                   | 5              | ı              | n            |   | $\neg$       |               | X  | ХŢ                                      |                    |          |             |                         |                             | ļ              | <u> </u>        | $\mathbb{Z}$ | 3_       |                |             | _        | <u> </u>      | _            | <u> </u>     |          |  | ╁_           | - -          | -            |              |              |          |
|                       | 1  |               | 8                    | 7              | T              |              |   |              |               | X  | Я                                       |                    |          |             |                         |                             | _              |                 | 8            | Ŋψ       | 2              |             | 1_       | $\perp$       | ↓_           | 1_           | ê        | <b>d</b>   | <b>X</b>     | <u>4</u> _   | +            | <b>-</b>  -  |              |          |
| ŀ٩                    | oģ9  | NX.           | ŽT                   | -              |                | ī            |   | Ī            |               |  | 7                                       | <b>X</b>           |          | "R"K        |                         | i                           |                |                 | Į į          | 1        | XXXX           | <u> </u>    | <u> </u> |               |              |              | Š        | 8_   | _            | Яц           | ᆣ            | -1-          | -            |          |
| ┢                     | <del>-  </del> -                                 | -₿            | Ž,                   | 1              | 32             | 7            | 寸   |              |               | _  | _                                       | 籾                  | S.       | $\otimes$   |                         |                             | Ī              | T               | 8            | 3        | ×              | 8           | Ľ        | 1_            |              |              | Ø        | 88   | 88           | <u>a</u> _   | _            | _ _          | _            | _        |
| -                     | - <del>`</del> -                                 |               | ř                    | 8              | ×              | 翎            | in l  | -            | _             | - -  | 7                                       | 첳                  |          |             | 2                       | -                           |                |                 | Ŕ            | X.       | χÝ             | اره         |          |               |              |              | abla     | 98   | Χœ           | 1            | ᆚ            | _ _          | _ _          | _ _      |
| H                     |  |               | -8                   | Ø.             | 2X X X X       | 섥            |   | <u>_</u> i   |               | _  | 7                                       | 껇                  |          | <b>}9</b> ∕ |                         |                             |                |                 | B            |          | 88             | X.          | Ţu       | 0             |              |              |          | Ŷ  |              | X            | ۳.           | 0            | 1            |          |
| -                     | -  |               |                      | 4              |                | 첬            | f   |              |               |  | _                                       | $ abla \mathbf{i}$ |          | ×           |                         |                             | <del>- i</del> |                 | 一            | Ŕ        | ۵۵             | ŞΦ¢         | 8        | -             | ₹            | Т            | Т        | 8  | ₩            | B            | 8            |              |              |          |
| - 1                   | 0Ò   | <b>₽</b> -    | -8                   |                |                | 紐            | ***   |              | -             |  | -[                                      |                    | X        | X.          | $\langle \! \rangle$    | 5                           |                | _               | 1            | 7        | ۵۵<br>۵۶       | 43          | Ž-       | 1             | T            |              | Т        | Β  | 8            | $\mathbb{R}$ | J.           |              | no           |          |
| - }-                  | -  | -             | -8                   | ❈              | <b>₹</b>       | ≌            | $\stackrel{\textstylelpha}{\textstylelpha}$ | S.           |               | ╌  | -{                                      | -1                 |          | -           | $\otimes$               | -                           | _              |                 |              |          | 8              | ۲,          | 20       | , L           | 5            |              | -        | Π  | T            | K            | 燹            | XI           |              |          |
| Ļ                     |  | _             |                      |                | Δ.             | $\bigotimes$ | ₩   |              |               |  |   |                    | $\times$ |             | 3                       |                             | 2              |                 | +            | -12      | 얼-             | k           | XX       | 81            | 十            | 1            | 1        | 1  |              | B            |              | S            | $\Box$       |          |
| ļ.,                   | <u> </u>   | 4             | 4                    |                | 윘              |              | ψ   | _            | -             |  | -                                       |                    | 缀        | <u> </u>    | $\overline{\mathbb{A}}$ | $\overset{\times}{\otimes}$ |                |                 |              | +        |                | <b>P</b>    | ě₽,      | 釒             | _            | -†-          | 1        | -  | 1            | 十            | 7            | ቖ            | X            | T        |
| L                     | -  |               |                      |                |                | _            | ×   | $\otimes$    | 2             |  |   |                    |          | -           | XX                      |                             |                |                 | -+'          | -        | _              | +           | -k       |               | *            | +            | 1        |  | :            | 十            | -6           |              | 滸            | _        |
| l                     | οò   | εĻ            | _                    | _              | थ              |              |   | <b>XX</b>    |               |  |   | -                  |          | ┼-          | <del> </del>            | 9                           | <del></del>    |                 |              |          | -              | -+-         |          | <del>2f</del> | 計            |              | ╁        | +  |              | _            | 7            | 7            | 欬            | _        |
|                       |  |               | _                    | 5              | _              |              |   | 9            | <b>※</b>      |  |   | · .                | 6        | 1_          | <u> </u>                | X                           | $\bigotimes$   |                 | +            |          |                | =           |          | -6            | <b>a</b> -   | - -          | +        | +  | -            |              |              |              | $\bigotimes$ | -        |
|                       |  |               |                      |                | 2              | <u>[</u>     |   | $\cong$      |               |  |   |                    |          | 5           | 1_                      |                             | <b>※</b>       |                 | -            | _        | +              | -           | -        |               | ⋬.           | -            | +        | +  | -            | - -          |              | _            | -            |          |
| ſ                     |  | T             |                      |                |                |              | L   |              | (0)           |  |   | <u></u>            | <u> </u> | 1           | 150                     | 1                           | ₩              |                 | _            | 4        | _              | -           |          |               |              | +            | +        |  |              | +            | +            | 5            | -            |          |
| 1                     |  | 丁             | $\neg$               |                | $\neg$         |              |   | 6            | X             |  |   |                    | L        |             |                         | ~                           |                | _               | _            | _        | _              | _           | _        | _ '           | = -          | - -          | +        |  |              | -            | <u></u>      |              | }            |          |
| t                     |  | _1            | 1                    |                |                |              |   | Γ            | 7             |  | _                                       | L                  |          |             |                         |                             | -              |                 |              |          |                |             | _        | _             | _            | -            | 4-       |  | _            | -            |              |              |              |          |
| ŧ                     | 00   | 2+            | <del>mort</del><br>i | i              |                |              |   |              | -             |  |   |                    | Γ.       |             |                         | Ī                           |                |                 |              |          | _ !            | <u> </u>    |          |               | _            | _            | -        |  | _ _          | ᆈ            | $\dashv$     |              |              |          |
|                       | . H3   | ,o.           | <u> </u>             |                | _              |              |   |              | <del>-</del>  | [1   | -                                       | <del>;</del>       | <b>!</b> |             | ,                       | 1                           | 1              |                 | 4            |          | <del>-</del> 1 | ∞ -         | +        | _             |              | _            | 4        |  | 二.           | 2            | 二            |              | -            | \<br>\   |
| TUBY                  |  | 42cl          |                      |                |                | <del>-</del> | i   | $\vdash$     | T             |  |   | 1                  | t        | 1           | 1                       |                             | -              | $\Box$          | -77          |          | _ T            |             |          | 1             |              |              | $\perp$  |  |              |              |              |              |              |          |
| VEUT:                 | EPH(   | ונפר          | - 1                  |                |                |              |   | ı            | J             |  |   |                    |          |             |                         |                             |                |                 |              |          |                |             |          |               |              |              |          |  |              |              |              |              |              |          |
| 300<br>71094<br>71094 | מחניו  | 1 1           |                      | ပ              | -              | 2            |   | -            | 0             | <b>├</b> ── <b></b>                              | -                                       | ادد                | -        | 이 c         | 3 ~                     | 1 60                        | ļ œ            |                 | 섹            | 9        | 8              | 2           | 4        | တ             | ထ            |              |          |  | 2            |              | 4            | 4            |              |          |

Power Conductor Dia. . 200 inches T USE BY CLASS OF POLE LIGHT LOADING DISTRICT 1 7 Q 1000 ć B G 006  $9 \times \times \times \times$ 2 ū u. K3 ĸ 008 ന SPAN LENGTH ιC ıO w ιοόμ (Calculations Based on 35 ft. Poles) c MAXIMUM SPANS F. MARGIN OF STRENGTH OF 2 **!** S 009 <u>.</u>-200 5 ŗ. 00% r 300 OWN.CTORS
TELEPHONE CC-DUCTON
SEPARATION BELOW
POWER NEUTRALIT 8 Q 4 ø 00

LICHT LOADING DISTRICT I USE BY CLASS OF POLE

(Calculations Based on 35 ft. Poles) MAXIMUM SPANS MARGIN OF STRENGTH OF 2

Power Conductor Dia. .250 inches

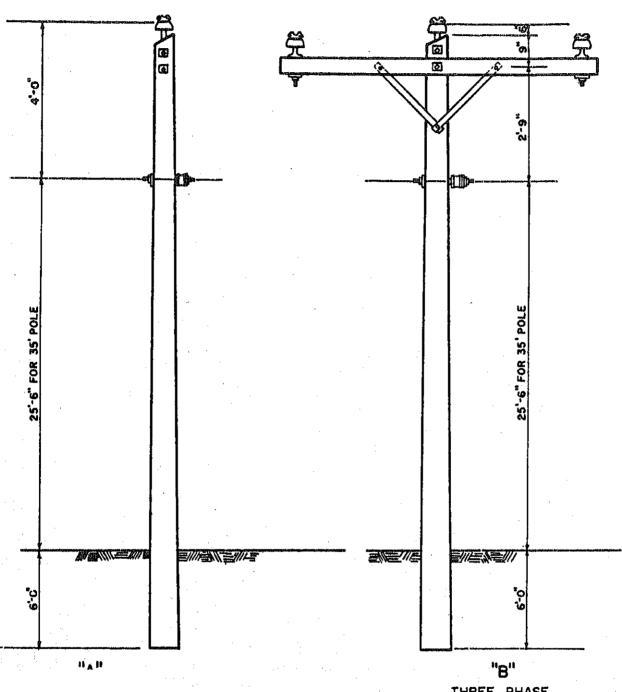
0001 ល 008 ហ **%**€ S 2 ru, נט ເດ  $\otimes\!\!\!\otimes\!\!\!\otimes\!\!\!\otimes\!\!\!\otimes$ S o 004 S r3 9 9 S 9999 S 9:XXXXX G 009 SPAN LENGTH 'n 9⊗ ⊗⊗ ⊗9 009 9889  $\times 9 \times \times \times \times$ <u>r-</u> Ľ Ŀ Ľ. 300 Ľ~ -Ç-200 100 TELEPHONE CONDUCTOR SEPARATION BELOW TI-JARTUZN REMON g 8 NO. OF PONES
CONDUCTORS
NO. OF TELEPHONE
CONDUCTORS 10 2 2 2 8 6 4 2 10 4 8 2 <del>6</del> 2 8 44 (0 44 C 8 4 O œ 4 0 8 တ ထ S S S S কা কা 2 4

Š RREFIG. NO.

RL-Fig. No. 13

RD-Fig. No. 14

### REA POLE-HEAD CONFIGURATION



THREE PHASE FOUR-WIRE CONSTRUCTION

#### JOINT USE REFERENCE DATA

#### FOR COMMONLY USED POWER CONDUCTORS

| Power Conductor | Diameter (in) |
|-----------------|---------------|
| 1/0-6/1 ACSR    | .396          |
| 1/0-7 St'd. Cu. | .368          |
| 2-7/1 ACSR      | .326          |
| 2∞8 Stid. Cu.   | .820          |
| 2-6/1 ACSR      | .316          |
| 4-7/1 ACSR      | .257          |
| 2 - Hd. Cu.     | .257          |
| 4-6/1 ACSR      | .250          |
| 6A-Cwc.         | <b>.2</b> 30  |
| 4 - Hå. Cu.     | .204          |
| 8A-Cwo.         | .199          |
| 6 - Hd. Cu.     | .162          |

#### Notes

The above listed power conductors are those commonly used in REA type construction. The joint use pole strength tables were calculated for five different conductor diameters and the engineer should select the table based on diameter nearest to, but not less than, diameter of the power conductor being considered.

LOADING DISTRICT

POWER COMDUCTOR:

Heavy

No. 4 7/1 ACSR

| O             |  | All MEN CEPT   | 51410 1288  | ******      |             | н          | 0avy     | LEFE SHOWE CO | NOUCTOR  |           |
|---------------|--|----------------|-------------|-------------|-------------|------------|----------|---------------|----------|-----------|
| Shee sec      | cadarica er  | o present or p | lassed, use | celuma "Sec | ondary". A. | 11         | •        | .102 EH       | \$ 30% C | opperweld |
|               |  |                |             |             |             | OMER NEU   | TRAL AND | LEFEBHONE     | COMDUCTO | Rs (Feet) |
| SPAN          |  | ING SPAN       |             | ING SPAN    | 3871 RUL    | ING' SPAI  | 4501 RUL | ING SPAN      | 500 TRUL | ING SPAN  |
| langth<br>Pt. | The least training to the same of the same | OWER COMD.     |             | WER COND.   |             | WER COND.  |          | WER COND.     | LOWER PO | WER COND. |
| - 1           | HEUTRAL  | SE CONDARY     | NEUTRAL     | BECOMDARY   | HEUTRAL     | BECONDARY  | MEUTRAL  | SECONDARY     | HEUTRAL  | SECONDARY |
| 200           | 3.51   | 6.51           | 4.01        | 7.01        | 4.51        | 7.51       | 4.51     | 7.5           | 5.01     | 8.01      |
| 210           | 4.01   | 7.01           | 11          | tt          | 11          |            | 5.01     | 8.01          | 11       | 16        |
| 220           | 11   | II II          | 11          | · 11        | 10          | 19         | 11       | 11            | 5.51     | 8.51      |
| 230           | 11   | 11             | 4.51        | 7.51        | 5.01        | 8,01       | 5.5!     | 8.51          | 11       | 11        |
| 240           | 11   | 11             | 11          | II.         | !1          | 11         | H        | If            | 6.01     | 9.01      |
| 250           | 4.51   | 7.51           | н           | !!          | 11          | j)         | 6.01     | 9.01          | 11       | 11        |
| 260           | 11   | 11             | 5.01        | 8.01        | 5.51        | 8.51       | !        | H             | 6.5!     | 9.51      |
| 270           | 11   | 11             | 11          | 11          | ll          | ] <b>(</b> | 18       | 11            | tt ,     | 19        |
| 280           | H  | 11             | 11          | 11          | 11          | H          | 6,51     | 9.51          | 7,01.    | 10.01     |
| 290           | 16   | 11             | 11          | II.         | 6.01        | 9.01       | 7,01     | 10.0'         | 7.51     | 10.51     |
| 300           | 5.01   | 8,01           | 5,51        | 8,51        | 11          | 11         | H        | 11            | 11       | H.        |
| 310           | · #  | 11             | 11          | 11          | 6.51        | 9.51       | 7.51     | 10.51         | 8.01     | 11.01     |
| 320           | 11   | 10             | 6.01        | 9.01        | 11          | 1)         | 11       | 11            | 11       | 11        |
| 330           | 5.51   | 8,51           | 11          | 11          | 7.01        | 10.01      | 8,01     | 11.0'         | 8.51     | 11.51     |
| 340           | 11   | 11             | 11          | l1          | H           | 11         | 8,51     | 11.5'         | 9.01     | 12.0'     |
| 350           | j†   | 18             | 6.51        | 9.51        | 7.51        | 10,51      | 11       | 11            | 11       | H         |
| 360           | 6,01   | 9.01           | 11          | 11          | 11          | 11         | 9,01     | 12.01         | 9.51     | 12.51     |
| 370           | It   | 11             | 7.01        | 10.0        | 8.01        | 11.01      | 9.51     | 12.51         | 10.0     | 13.01     |
| 380           | 11   | 9.51           | 11          | 11          | 13          | 11.51      | "        | 13.0'         | 10.51    | 13.51     |
| 390           | 6,51   | t <b>t</b>     | 7,51        | 10.51       | 8.51        | <u>!1</u>  | 10.0'    | 13.5'         | 11.0     | 14.01     |
| 400           | ()   | 10.01          | 11          | 11.0'       | 9.01        | 12.0'      | 10.51    | 19            | 11       | 14.51     |
| 410           | 7.01   | 10.51          | 11          | 19          | 11          | 12.5       | 11.0'    | 14.01         | 11.5'    | 15.01     |
| 420           | 11   | 11             | 8.01        | 11.51       | 9.5         | 13.01      | 11.51    | 15.01         | 12.01    | 16.0      |
| 430           | tt   | 11.0'          | 8.51        | 12.01       | 10.00       | 13.51      | 11       | 15.51         | 12.51    | 16.5!     |
| 440           | 7.51   | 11.5'          | 11          | 12.5        | 11          | 14.0'      | 12.0'    | 16.0'         | 13.01    | 17.01     |
| 450           | 11   | t <b>e</b>     | 9.01        | 13.0'       | 10,51       | 14.51      | 12.51    | 16.51         | 13.5     | 17.51     |
| 460           | 8.01   | 12.0'          | - 11        | 13.5        | 11.0'       | 15.01      | 13.01    | 17.01         | 14.0'    | 18.5      |
| 470           | - 11   | 12.51          | 9.51        | 11          | 11          | 15.51      | 13.51    | 18.01         | 14.51    | 19.01     |
| 480           | 8.51   | 13.0'          | 11          | 14.01       | 11.51       | 16.01      | 14.01    | 18.51         | 15.0'    | 19.51     |
| 490           | 11   | If             | 10.0'       | 14.5        | 12.0'       | 16.51      | 14.51    | 19.01         | 15.51    | 20.51     |
| 500           | 9.01   | 13,51          | 10.51       | 15.01       | 13.0'       | 17.01      | 15.01    | 19.51         | 16.5     | 21.0!     |
| 510           | 9.51   | 14.01          | 11.01       | 15.5        | 13.51       | 17.51      | 16.01    | 20.51         | 17.0     | 21.51     |
| 520           | · · · · · · · · · · · · · · · · · · ·  |                |             |             |             |            |          |               |          |           |
| 530           |  |                |             |             |             |            |          | <u> </u>      |          | <u> </u>  |
| 540           |  |                |             |             | <u> </u>    |            |          |               |          |           |
| 550           |  |                |             |             |             |            |          | ļ             | <u> </u> | -         |
| 560           |  |                |             |             |             |            |          |               | <u> </u> |           |
| 570           |  |                |             |             |             |            |          | <u> </u>      | <u> </u> |           |
| 580           |  |                |             |             |             |            |          | <u> </u>      |          | <u> </u>  |
| 590           |  |                |             |             |             |            |          | ļ             | <u> </u> |           |
|               | T  |                | I           | 1           | 1 '         | I          | 1        | 1             | 1        | 1         |

MOTES: The data shown in this table reflect the following basic minimum requirements:

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3½ feet below pole top and phase wires accupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER COMDUCTOR

No. 4 7/1 ACSR

Heavy

TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All .109 Grade 190 Steel sparations shows are between neutral and telephone conductors. HININUM SEPARATION AT POLE BETWEEN POWER HEUTRAL AND TELEPHONE CONDUCTORS (Feet.) 500 RULING SPAN 387 HULING SPAN 4501 RULING SPAN 350 TRULING SPAN 326 TRULING SPAN LENGTH LOWER POWER COND. NEUTRAL SECONDARY HEUTRAL SECONDARY NEUTRAL SECONDARY SECONDARY HEUTRAL SECONDARY MEUTRAL 8,01 7.51 4.51 8.01 5.01 4.51 4.01 7.01 200 4.01 7.01 5.01 5.51 8.51 18 It 11 11 210 11 5,51 7.51 8.51 11 4.51 5.01 8.01 H 11 220 71 11 11 11 11 Ħ 11 230 11 Ш 6.01 9.01 11 11 11 4.51 7.51 240 6,51 9.51 8.51 6.01 9.01 10.8 5.51 5.01 250 6.51 11 ff 9.51 11 260 11 11 11 7.01 10.0 H 11 6.01 9.01 11 270 6.01 5.01 11 11 7.01 10.01 11 8.51 280 12 4 5.51 10.51 7.51 9.51 6.51 11 Ħ 11 11 290 8.01 11.01 10.51 Ħ 7.51 9.01 13 300 19 11 6.01 10.C' 11 10 7.01 Ħ 310 п 8 51 5.51 11.51 8,51 8.01 יס.בנ 11 16 11 Ħ 320 11 10 9.01 12.01 11.51 10.5 8.51 6.51 9.51 7.51 330 6.01 9.00 12.51 9.51 17 Ħ # 11 tt Ħ 11 340 10 11 11 12.01 9.01 8.01 11.01 7.01 10.01 18 350 11 13.01 10.01 9.51 12.51 10 360 11 6.51 9.51 ŧŧ 13.51 10.51 8.51 11.51 10.01 13.01 10.51 370 Ħ 7.51 11 14.01 11.0' 12.0 10.51 13.51 9.01 380 10.01 7.0! 14.51 11.51 11 11 8.01 11.01 -11 390 11 12.01 15.01 11.0' 14.0' 9.51 17 ìŧ 11 11 400 15.51 12.51 11.51 14.51 13.01 10,01 11. 51 8,51 10.5 410 16.0 13.01 12.01 15,01 Ħ 11 18 11 11 420 16.51 13.5 15.51 13.51 12.51 10.51 9.01 12.01 8.01 11.01 430 14.01 17.01 16.01 14.0 13.01 12.51 11.0' 11.51 11 11 440 17.51 14.51 13.51 16.5 14,51 13.C' 8.51 9.51 11 11 450 15.0 14.01 17.0' 15.01 13.51 11.51 10.01 12.01 460 15.51 17.51 fl . 12.01 15.51 10.0 470 9.01 12.51 16.01 12.51 16.01 14.51 14.01 480 11 13.0' 10.51 16.51 16.51 15.01 13.01 14.51 11.01 490 9.51 11 17.01 15.51 17.01 15.01 13.5! Ħ 500 11 16.51 17.51 13.51 17.51 15.51 11.51 510 14.01 10.01 17.0' 14.01 16.01 12.0! 520 10.51 14.51 77.51 16.51 14.51 12.51 530 11 15.01 13.01 17.01 540 11.0' 15.51 17.51 550 11 16.01 tf 14.01 560 11.51 570 580 590

The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

600

<sup>2. 30-</sup>inch minimum midspan meparation between highest telephone conductor and neutral or

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lovest secondary 3 fact below neutrol. RD-Fig. No. 19

LOADING DISTRICT POWER CONDUCTOR

Heavy

No. 6A Copperweld. TELEPHONE CONDUCTOR

|              | •                                       | UN REA CLE                            |              |              | يدوننا حديب وريد |              | He           | avy               | TELEPHONE CO                                     | NDUCTOR      |              |
|--------------|---|---------------------------------------|--------------|--------------|------------------|--------------|--------------|-------------------|--|--------------|--------------|
| 100 500      | ond charact                             | oprosentor                            | olanzed, use | column "Soci | oudery". Al      | rı           |              | ;                 | .102 EH  | 3 30% C      | pperwel      |
| Man Cort     | H H                                     | ININUM SEF                            | ARATION      | AT POLE B    | ETWEEN PO        | DAEB N       | EUTI         | AL AND T          | ELEPHONE   | COMBUCTO     | Rs (Feet     |
| SPAN         | The last sufficiency of the Last Street | ING SPAN                              |              | ING SPAN     |                  |              |              | 4501 RUL          | ING SPAN   |              | ING SPAN     |
| INGTH<br>FT. | LOWER P                                 | OWER COMD.                            | LOWER PO     | WER COND.    | LOWER PO         | WER CON      | D.           | LOWER POY         | ER COND.   | LOWER PO     | WER COND.    |
|              | MEUTRAL                                 | SECONDARY                             | HEUTRAL      | SECOMBARY    | HEUTRAL          | SECONO       | YSA          | HEUTRAL           | SECONDARY  | NEUTRAL      | SECONDARY    |
| 200          | 3.51                                    | 6.51                                  | 3,51         | 6,51         | 4.01             | 7.0          | 01           | 4.01              | 7.01   |              | ,            |
| 210          | <b>†</b>                                | 11                                    | 4.01         | 7,01         | 11               | 11           |              | 4.51              | 7.51   | ·            |              |
| 220          | 11                                      | 11                                    | - 11         | Ħ            | 11               | 11           |              | 11                | lt .   |              |              |
| 230          | 11                                      | 11                                    | II.          | 11           | 4.51             | 7.           |              | 11                | 11   | ļ            |              |
| 240          | !1                                      | 11                                    | - 11         | 11           | 11               | 11           |              | 11                | 11   |              | ļ            |
| 250          | 4.01                                    | 7.01                                  | 11           | 11           | 11               | 11           |              | 5.01              | 8.01   | <u> </u>     |              |
| 260          | 11                                      | 10                                    | 11           | l)           | - 11             | - 11         |              | <u> </u>          | 11   | ļ            | ļ            |
| 270          | 11                                      | 11                                    | 17           | II.          | 5.01             | 8.           | 01           | !!                | 19   | <u> </u>     | <u> </u>     |
| 280          | 11                                      | 11                                    | 4.51         | 7.51         | Ħ-               | 11           |              | 5.51              | 8.51   | <u></u>      | <del></del>  |
| 290          | 19                                      | lt.                                   | 11           | It.          | 11               | - 11         | -            | "                 |  | <u> </u>     | <del> </del> |
| 300          | 11                                      | 11                                    | 11           | 11           | 5.51             | 8.           | سرمياته      | 6,01              | 9,0!   | <u> </u>     | <del> </del> |
| 310          | 4.51                                    | 7.5!                                  | !!           | 11           | 11               | 11           | -4.          | II.               | 11   |              |              |
| 320          | 11                                      | 11                                    | 5.01         | 8.01         | H                | 11           |              | 6,51              | 9.51   |              | <del> </del> |
| 330          | !!                                      | lt                                    | 11           | lâ           | 6,01             | 9.           |              | 11                | !!   |              | <del> </del> |
| 340          | If .                                    | 11                                    | 11           | - 11         | "                | 11           | <del> </del> | 11                | 11   | <del> </del> |              |
| 350          | 11                                      | 11                                    |              | 11           | 11               | 11           |              | 7,01              | 10,01  | <del> </del> | <del> </del> |
| 360          | 5.01                                    | 8,01                                  | 5.51         | 8,51         | 6.51             | 9,           | 51           | 7.51              | 10.51  |              | <del> </del> |
| 370          | - 11                                    | 11                                    | 11           | 11           | 1                | ļ            |              | <del>  7,5'</del> | 11.0'  | <del></del>  | <del> </del> |
| 380          | 11                                      | 11                                    | 11 / 01      | 11           | 7,01             | 10.          |              | 8.01              | 11   |              |              |
| 390          | H                                       | 8.51                                  | 6.01         | 9.0!         | <u> </u>         | 10.          |              | 8,51              | 11.51  |              |              |
| 400          | 5,51                                    | 11                                    | 11           | 9.51         | 7,51             | 11,          |              | 0.3               | 12.01  | -            |              |
| 410          | ††                                      | 9,01                                  |              | <del></del>  |                  | 11.          |              | 9.01              | 12.51  |              |              |
| 420          | tt                                      |                                       | 6,51         | 10.01        | 8,01             | 12           |              | 11                | 13.01  | ·            |              |
| 430          | 1 / 00                                  | 9.51                                  | 11           | 10.5         | 8,51             | 12.          |              | 9,51              | 13.51  |              |              |
| 440          | 6,01                                    | 10.01                                 | 7.01         | 11.0         | 9.01             | 13.          |              | 11                | 14.01  |              |              |
| 450<br>460   | <del>  "</del>                          | 17.01                                 | 11           | 11.51        | 1 7 0.           | <del></del>  |              | 10.01             | 14.51  | <del></del>  |              |
| 470          | -                                       |                                       | 7.51         | 1162         | 111              | 13.          | 51           | 10.5              | 15.01  |              |              |
| 480          |   |                                       | 11           | 12.01        | 9.51             | 14.          |              | 11                | 15.5!  |              |              |
| 490          |   | ,                                     |              |              | 10.01            | 14           |              | 11.01             | 16.01  |              |              |
| 500          |   |                                       |              |              | 10.51            | 15           |              | 11.51             | 16.51  |              |              |
| 510          |   | · · · · · · · · · · · · · · · · · · · |              |              | 11.01            | 15.          | 51           | 12.01             | 17.01  |              |              |
| 520          |   |                                       |              |              | 11.51            | 16           | OI           | 13.01             | 17.51  |              |              |
| 530          |   |                                       |              |              |                  |              |              |                   |  |              |              |
| 540          |   |                                       |              |              |                  |              |              | <u> </u>          |  | <u> </u>     | <del></del>  |
| 550          |   |                                       |              |              |                  | <u> </u>     |              |                   |  | <u> </u>     |              |
| 560          |   |                                       |              |              | 1                | <u> </u>     | ,            |                   |  | <del></del>  |              |
| 570          |   |                                       |              |              | <u> </u>         |              |              | <del></del>       | <del> </del>                                     |              | -            |
| 580          |   |                                       |              |              | 4                | <del> </del> |              | <u> </u>          |  | -            | -            |
| 590          |   |                                       | <del> </del> |              | -                | <del></del>  | <u> </u>     |                   | <del>                                     </del> |              | <del></del>  |
| 600          |   |                                       | <u> </u>     |              |                  | 1            | · · ·        |                   | <u> </u>   |              | <del></del>  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is sounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondarios.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pale top and phase wires occupying a position at top of pole and lowest secondary 3 feet below soutral. RD-Fig. No. 20

ten seconderios ero present or plenned, use column "Secondery

LOADING DISTRICT

POWER COMOUCTOR

Heavy

No. 6A Copperweld TELEPHONE COMPUCTOR

.109 Grade 190 Steel

reparations shown are between neutral and telephone conductors. HIBIHUM SEPARATION AT POLE BETWEEN POWER BEUTRAL AND TELEPHONE CONDUCTORS (Fee 354 RULING SPAN 3751 RULING SPAN 416 PULING SPAN 450 RULING SPAN RULING SPA SPAN LENGTH LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COMD. LOWER POWER COND. HEUTRAL NEUTRAL SECONDARY HEUTRAL SECORDARY NEUTRAL SECONDARY SECONDARY 4.51 7.50 7.C' 200 3.51 6.51 4.01 7.01 4.01 11 11 н 210 Ħ 11 4.51 11 i P 11 7,51 II 18 Ħ 220 11 11 11 LaO1 7.01 230 11 Ħ 10 11 3.0 11 11 5,01 240 51 8.01 7.51 5,01 11 250 11 11 5,51 8.51 260 11 11 11 O # 41 11 (1 270 11 11 4.51 11 18 5,51 3.51 280 7.51 290 11 5.01 8.01 11 11 6.01 9.01 Ħ 300 11 12 Ħ 11 11 Ħ Ħ 11 Ħ 11 6.51 9.51 12 11 6.01 9.01 310 Ħ 12 18 Ħ 11 320 5.01 10.8 9.51 7.01 10.01 6.51 330 11 5.51 8.51 11 18 11 11 н 340 Ħ 11 H 7.01 10.01 7.51 10.51 350 11 6.01 5.51 Ħ 360 8.51 ## 9.01 Ħ 7.51 11 יחברו 8.01 370 11 10 380 11 # 11 II Ħ 10.51 8,51 11.5! Ħ 6.51 9,51 11.0 10.8 390 6.01 9.01 12.01 11 9.01 Ħ 11 11 12 400 Ħ 8.51 11.5 tt Iŧ Iŧ 11 7.01 410 10.01 12.51 9.51 tt 11 11 11 11 420 13.0' 10 10.51 9.01 ا2،0 10.Q' 430 6.51 9.51 13.51 12.5 440 11 7.51 12 H 11.0 9.51 13.0 10.51 14.01 450 10.0 Ħ 11 11.01 14.51 11 460 8.01 11.51 15.01 13.51 Ħ 470 12 10.01 11.51 15.51 8.51 14.01 12.01 10.5! 480 12.0! 16.0! Ħ 14.5! 490 12.51 16.51 יסגונ 15.Q! 500 18 17.01 15.51 510 17.51 Ħ 13.01 520 530 540 550 560 570 580 590

The data shown in this table reflect the following basic minimum requirements:

გიი

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is acunted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midepan separation between highest telephone conductor and neutral or

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6 HD Copper TELEPHONE CONDUCTOR

| L        |              | VH HEA ELE                     |                            |              | Н                                       | eavy                                   | TELEPHONE CO | NOUCTOR     |          |           |
|----------|--------------|--------------------------------|----------------------------|--------------|---|--|--------------|-------------|----------|-----------|
| 47<br>80 | one shown of | re present or<br>tre between n | pianned, und<br>eutral and | telephone co | ondary". A<br>nductors.                 | 11                                     |              |             | ade 190  |           |
|          | H            | INIMUM SE                      | PARATION                   | AT POLE 8    | ETWEEN P                                | OWER HEUT                              | RAL AHD      |             |          | RS (Feet) |
| ŀ.       | 1751 RUL     | LING SPAN                      | 223 1 RUL                  | ING SPAN     | 2741 RUL                                | ING SPAN                               | 3251 RUL     | ING SPAN    |          | ING SPAN  |
| ľ        | LOWER P      | OWER COND.                     | LOWER PO                   | OWER COND.   | LOWER PO                                | WER COND.                              | LOWER PO     | WER COND.   | LOWER PO | WER COND. |
|          | HEUTRAL      | SECONDARY                      | MEUTRAL                    | SECONDARY    | NEUTRAL                                 | SECONDARY                              | NEUTRAL      | SECONDARY   | HEUTRAL  | SECONDARY |
| _        | 5,51         | 8.51                           | 6,51                       | 9.51         | 7.01                                    | 10.5                                   | 7.51         | 10.51       |          |           |
| _        | 11           | 11                             | 7.01                       | 10.01        | 7.51                                    | 11.51                                  | 8.01         | 11.0'       |          |           |
| Ī        | 6.01         | 9.01                           | 7.51                       | 10.51        | 8.01                                    | 11.01                                  | 8.51         | 11.51       | <u> </u> |           |
| _        | 6.51         | 9.51                           | 8.01                       | יס.נו        | 8.51                                    | 11.5'                                  | 9.01         | 12.01       |          |           |
| _        | ††           | 11                             | 8.51                       | 11.5         | 9.01                                    | 12.01                                  | 10.0         | 13.01       |          |           |
|          | 7.01         | 20.01                          | 9.01                       | 12.01        | 10.01                                   | 13.01                                  | 10.51        | 13.5!       |          |           |
|          | 7.51         | 10.51                          | 9.51                       | 12,51        | 10.51                                   | 13.51                                  | 11.01        | 14.01       |          |           |
| _        | 11           | lf                             | 10.01                      | 13:0'        | 11.0'                                   | 14.01                                  | 11.51        | 14.51       | `.       | ,         |
| _        | 8.01         | 11.0'                          | 10.51                      | 13.51        | 11.5!                                   | 14.51                                  | 12.01        | 15.01       |          |           |
| _        | 8.5!         | 11.5!                          | 11.0'                      | 14.01        | 12.01                                   | 15.01                                  | 12.51        | 16.01       |          |           |
| _        | 9.01         | 12.01                          | 11.5                       | 14.51        | 13.01                                   | 16.01                                  | 13.01        | 16.51       |          |           |
| 4        | 11           |                                | 12.01                      | 15,01        | 13.51                                   | 16.51                                  |              |             |          |           |
| _        | 9.51         | 12.51                          | 12.51                      | 15.5'        |   |  |              |             |          |           |
| -        | 10.01        | 13.01                          |                            |              | ·                                       |  |              |             |          |           |
| -        | 10.51        | 13.51                          |                            |              |   |  | ļ            |             |          |           |
| 4        | 11.0!        | 14.01                          |                            |              |   |  |              |             | <u> </u> |           |
| 4        | 11.51        | 14.5!                          |                            |              |   |  | ·            |             |          |           |
| 4        | 12.01        | 15.01                          |                            |              |   |  |              | <u> </u>    |          |           |
| 4        | 12.51        | 15.51                          |                            |              | *************************************** | <del></del>                            | <del></del>  | [           |          | ·         |
| 4        | _13.01       | 16.01                          |                            |              |   |  | <u> </u>     |             | ,        |           |
| -        |              |                                |                            |              |   | <del></del>                            |              | <u> </u>    |          | ~         |
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| 4        |              |                                |                            |              |   |  |              |             |          | <u></u>   |
| +        |              |                                |                            |              |   |  | ;            |             |          |           |
| 1        |              |                                |                            |              |   |  | <u> </u>     |             |          |           |
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| 7        |              |                                |                            |              |   | <del>1</del>                           |              | <del></del> |          | <u> </u>  |
| 1        |              |                                |                            |              |   |  |              | <u> </u>    |          |           |
|          |              |                                |                            |              |   |  |              |             |          |           |
|          |              |                                |                            |              |   |  |              |             |          |           |
| Ī        |              |                                |                            |              |   |  | ,            |             |          |           |
| Ţ        |              |                                |                            |              |   |  |              |             |          |           |
| ľ        |              |                                |                            |              |   |  |              |             |          |           |
| 1        |              |                                |                            |              |   |  |              |             |          |           |
|          | <u> </u>     |                                |                            |              |   |  |              |             |          |           |
|          |              |                                |                            |              |   |  |              |             |          |           |

The data shown in this table reflect the following basic minimum requirements: inch minimum meparation at pole between neutral or secondary and highest telephone aductor. (These tubles do not include any consideration of minimum separation retrements when power equipment is mounted on pole below the neutral).

rinch minimum ardspan separation between highest telephone conductor and neutral or condaries.

se of sight rule when secondaries up to 750 volts are involved.

t below neutral.

separations are based on REA pole head configurations with neutral 3% feet below le top and phase wires occupying a position at top of pole and lowest secondary 3

LOADING DISTRICT POWER COMPRICTOR

No. 8A Copperweld

Heavy

TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All reparations shown are between neetral and telephone conductors. .102 EHS 30% Copperweld MINIMUM SEPARATION AT POLE DETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Feet) LOO TRULING SPAN 4501 RULING SPAN RULING SPAN 345 TRULING SPAN 375 TRULING SPAN LENGTH FT. LOWER POWER COMD. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. NEUTRAL SECONDARY MEUTRAL NEUTRA!. NEUTRAL HEUTRAL SECONDARY SECONDARY SECONDARY SECONDARY 6.51 4001 4.51 7.51 3.51 7-01 4.01 7.01 200 tt. 210 12 18 11 19 Ħ 11 11 11 4.51 7.51 5.QI 10.8 Ħ 18 220 Ħ 11 u 11 19 11 11 11 230 7.51 Ħ 4.51 # 4.01 7.01 240 5.51 8.51 250 11 -5.01 8.01 11 18 260 11 Ħ Ħ Ħ Ħ 11 # 11 270 11 Ħ Ħ 11 Ħ 11 6.01 9.01 11 5.51 8.51 280 н 12 5.01 8.01 6.51 9,51 290 11 \*\* 11 13 4.51 7.51 300 11 H Ħ 18 Ħ 11 ا0 6 9.01 310 tt 11 5.51 8.51 11 11 7.01 10.01 18 11 12 11 320 lŧ 18 11 11 7.51 9.51 10.51 330 6.01 9.01 6.51 5.01 8.01 Iŧ 11 11 340 10 12 11 11 12 11 350 11 11 7.01 10.01 8.01 11.01 360 Ħ 11 13 II 11 6.51 9.51 370 8.51 11.51 7.51 10.51 8.51 H 5.51 Ħ 9.01 12.01 10 11 380 11 11 390 12.51 9.51 Ħ 9.01 7.01 10.01 8.01 11.0! 11 11.5 13.01 If 11 400 Ħ 10.51 10.01 13.51 8.51 11 410 7.51 Ħ 6.01 9.51 14.01 11.0' Ħ 12.0 11 420 Ħ it 9.01 12.51 10.51 14.51 11 8.01 11.5 430 10.01 15.01 11.01 11 9.51 13.0 440 6.51 10.51 12.01 12.51 11.51 15.51 13.51 8.51 450 H If 12.01 16.01 14.0' 460 11 11.01 11 13.0' 10.0 16.51 470 11 9.01 11 11 14.51 11 7.01 12.51 17.0 480 11.51 13.51 10.5 15.01 17.51 7.5 9.51 14.01 11.0 11 13.0' 490 12.01 14,01 18.01 14.51-11.5 16.01 10.01 500 8.01 16.51 14.51 19.0 12.0 12.51 15.01 510 10.51 520 530 540 550 560 570 580

NOTES: The data shown in this table reflect the following basic minimum requirements:

590 600

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All neparations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral. RD-Fig. No. 23

Then secondaries are present or planned, use column "Secondary". All

LOADING DISTRICT POWER CONBUCTOR

Heavy

No. 8A Copperweld TELEPHONE CONDUCTOR

100 Grade 100 Steel

| separat                                 | ione shown | ato potacos u | eutral and | telephone co | nductors. | 1          |          |           | ade 190                                |  |
|---|------------|---------------|------------|--------------|-----------|------------|----------|-----------|--|--|
|   | M          | 3e numini     | PARATION   | AT POLE      | ETWEEN P  | OAEB WEAL  | RAL AND  | TELEPHONE | CONDUCTO                               | Rs (Feet)  |
| SPAN<br>LENGTH                          | 345 RU     | LING SPAN     | 3751RU     | LING SPAN    | 4001 RUI  | LING SPAN  | 4501 RUL | ING SPAN  |  | ING SPAN   |
| FT.                                     |            | POWER COMD.   | LOWER P    | OWER COND.   | LOWER PO  | OWER COND. | LOWER PO | WER COND. | LOWER PO                               | WER COND.  |
| *************************************** | HEUTRAL    | BECOMBARY     | HEUTRAL    | SECONDARY    | HEUTRAL   | BECONDARY  | HEUTRAL  | SECONDARY | HEUTRAL                                | SECONDARY  |
| 200                                     | 3.51       | 6.51          | 4.01       | 7.01         | 4.01      | 7.01       | 4.51     | 7.51      |  |  |
| 210                                     | 11         | !!            | 11         | lt .         | 4.51      | 7,51       | 5.01     | 8.01      |  |  |
| 220                                     | 4.01       | 7.0'          | 11         | ļ II         | 11        | 11         | lt .     | 11        |  |  |
| 230                                     | 11         |               | 4.51       | 7.51         | 5.01      | 11         | lt t     | 11        |  |  |
| 240                                     |            | II.           | 11         | 11           | 11        | 8.01       | 5.51     | 8.51      |  |  |
| 250                                     | 11         | 11            | 11         | f†           | 11        | 11         | lt .     | 11        |  |  |
| 260                                     |            | 7.5!          | 5.01       | 8.01         | 5.51      | 8.51       | 6.01     | 9.01      |  |  |
| 270                                     | 4.51       | 11            | 11         | 11           | 11        | lt.        | ()       | 11        |  |  |
| 280                                     | 11         | 11            | 11         | 11           | Ħ         | 11         | 6.51     | 9.51      |  |  |
| 290                                     | łł         | 11            | 5.51       | 8.51         | 6.01      | 9.0!       | 11       | 11        |  |  |
| 300                                     | 11         | 8.01          | 11         | 11           | 11        | 11         | 7.01     | 10.01     |  |  |
| 310                                     | 5.01       | 11            | 11         | 14           | 6.51      | 9,51       | li li    | 11        |  |  |
| 320                                     | 11         | t1            | 6.01       | 9.01         | 11        | 11         | 7.51     | 10.5!     |  |  |
| 330                                     | ll ll      | 11            |            | 17           | 7.01      | 10.01      | 8.01     | 11.01     |  | **************************************                 |
| 340                                     | 5.51       | 8.51          | 6.51       | 9,51         | 10        | 11         | 11       | 11        | <del>~~~~~~~~~</del>                   |  |
| 350                                     | 11         | 19            | 10         | 11           | 7.51      | 10.51      | 8.51     | 11.51     |  |  |
| 360                                     | 11         | 11            | 7.01       | 10.0'        |           |            | 9.01     | 12.0'     |  | ····   |
| 370                                     | 6.0'       | 9.01          | II.        | 11           | 8,01      | 11.01      | 9.51     | 12.5'     | ************************************** |  |
| 380                                     | 11         | 11            | 7.51       | 10.51        | 11        | 11         | 11       | 11        |  |  |
| 390                                     | 10         | l†            | 18         | ll .         | 8.51      | 11.51      | 10.01    | 13.01     | *****                                  | 14. 16. 17. 17. 18. 18. 18. 18. 18. 18. 18. 18. 18. 18 |
| 400                                     | 6.51       | 9.51          | 8,01       | 11.0'        |           | LI .       | 11       | lf I      |  |  |
| 410                                     | 11         | Ħ             | 11         | 11           | 9.01      | 12.01      | 10.51    | 13.51     |  |  |
| 4.20                                    | )1         | 11            | 8.51       | 11.51        | 11        | H          | 11.0'    | 14.01     |  |  |
| 430                                     | 7.01       | 10.01         | li .       | 11           | 9.51      | 12.5'      | 11       | 14.51     |  | ***************************************                |
| 440                                     | II         | 11            | 9.01       | 12.01        | 10.01     | 13.0'      | 11.5'    | 15.0'     |  | <del>*************************************</del>       |
| 450                                     | 7,51       | 10.51         | Ħ          | 12.51        | 10.5'     | 13.51      | 12.0     | 15.51     |  |  |
| 460                                     | 11         | 11.0'         | 9.51       | 13.0         | 11        | 14.0       | 12.5     | 16.0'     |  |  |
| 470                                     | п          | 17            | II.        | Ħ            | 11.0'     | 14.51      | 13.01    | 16.51     |  |  |
| 480                                     | 8.01       | 11.51         | 10.01      | 13.51        | 11.51     | 15.0'      | 13.51    | 17.0:     |  |  |
| 490                                     | 11         | 12,01         | 10.51      | ان، 14       | 11        | 15.51      | 14.01    | 17.5!     |  |  |
| 500                                     | 8.51       | 11            | 11         | 14.51        | 12.01     | 16.01      | 1/.51    |           |  |  |
| 510                                     | 11         | 12.51         | 11.01      | 15.0'        | 12.51     | 16.51      | 15.01    |           |  |  |
| 520                                     | 9.01       | 13.C'         | 11         | 15,51        | 13.01     | 17.0'      | 15,51    |           |  |  |
| 530                                     | 11         | 13.51         | 11.51      | 16.01        | 13.51     | II .       | 16.01    |           |  |  |
| 540                                     | 9.51       | 14.01         | 12.01      | 16.51        | 14.01     |            | 16.51    |           |  |  |
| 550                                     | lt .       | 11            | 12.51      | 17.C'        | 14.5      |            | 17.01    |           |  | '  |
| 560                                     | 10.01      | 14.51         | 13.01      | 17.51        | 15.0'     |            | 17.51    |           |  |  |
| 570                                     | 11         | 15.01         | 13.51      |              | 15.51     |            |          |           |  |  |
| 580                                     | 10.51      | 15.5'         | 14.01      |              | 16.01     |            |          |           |  |  |
| 590                                     | - 11       | 16.01         | 15.01      |              | 16.51     |            |          |           |  |  |
| 600                                     |            |               |            |              |           |            |          |           |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole helow the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral,

LOADING DISTRICT

POWER COMBUCTOR

<u>4 7/1 ACSR</u> VELEPHONE CONDUCTOR

hen secondaries are present or planned, use column "Secondary", separations shown are between neutral and telephone conductors.

Medium

CON SPORT DROVE

|                | H        | INIMUM SE               | PABATIAN    | (elephone co | aductors.       | The state of the s | ESTATEMENT PROPERTY.  | O80 H                                  | 3 40% Co   | pperweld   |
|----------------|----------|-------------------------|-------------|--------------|-----------------|--|-----------------------|--|--|--|
| SPAN<br>LENGTH | 4251 RU  | INIMUM SEI<br>Ling Span | 51.2 1801   | LING SPAN    | LACOL DU        | POWER HEUT   | TRAL AHO              | TEI FRUANC                             | CONDUCTO   | as (Feet   |
| FT.            |          | OWER COND.              |             | OWER COND.   | 1000            | FINO SPAN  | 1 AOO LKO             | .ING SPAN                              | RUI  | LING SPAN  |
|                | MEUTRAL  | SECOMBARY               | NEUTRAL     |              |                 | OWER COND.   | LOWER PO              | WER COND.                              | LOWER PO   | WER COND.  |
| 200            |          |                         | MEDIRAL     | SECONDARY    | HEUTRAL         | SECONDARY  | NEUTRAL               | SECONDANY                              | HEUYNAL  | SECONDARY  |
| 210            |          |                         |             | <u> </u>     | <del> </del>    | -  | - Cited Service Const | Marithmentapo en la Mila 14.           | - The State of the |  |
| 220            |          |                         |             |              | <del> </del> -  | ·  | ļ                     |  |  |  |
| 230            |          |                         |             | <del> </del> |                 | ·  |                       |  |  |  |
| 240            |          |                         |             |              |                 |  | ·                     |  | -  |  |
| 250            | 3.51     | 6,51                    | 3.51        | 6.51         |                 |  | ļ                     |  |  |  |
| 260            | 18       | 11                      | 11          | 9,2          | 3,51            | 6.51   | 3.5!                  | 6,51                                   | CLOSELY LANGE ARREST   |  |
| 270            | 11       | 11                      | 11          |              | 11              | !!   | 11                    | 11                                     | ******   |  |
| 280            | 18       | 1)                      | 11          | 11           | <u>''</u><br>II | 11   | 4.0'                  | 7.01                                   |  |  |
| 290            | 11       | 11                      | II I        | 11           | 11              | 11   | 11                    | . 11                                   | · Collector special paragraphy   |  |
| 300            | 11       | 71                      |             | 11           | 11              |  | 11                    | 11                                     |  |  |
| 310            | 11       | 11                      | it .        | 11           |                 | 11   | 11                    |  | The market becomes the second of   |  |
| 320            | 11       | 19                      | . 11        | 11           | " "             | 11   | H                     | 1                                      |  |  |
| 330            | 11       | 11                      | 11          | 11           | rı              | n  | 11                    | !!                                     |  |  |
| 340            | II       | 11                      | 11          | 11           | 11              |  | 4.51                  | 7.51                                   |  | <del></del>  |
| 350            | 11       | 11                      | 11          | 11           | 4.01            | 11   | 11 .                  | !!                                     | ······································   |  |
| 360            | 11       | 11                      | 11          | 11           | // aU'          | 7.01   | . 11<br>. 11          |  |  |  |
| 370            | 11       | 11                      | 11          | . 11         |                 | <u>/^Q'</u>  |                       | lt .                                   |  |  |
| 380            |          | 11                      | 11          | 7.01         | 19              | 7.51   |                       | <u>8,01</u>                            |  |  |
| 390            | . 11     | 11                      | 11          | 11           | 11              |  | 5.01                  | 11                                     |  |  |
| 400            | 11       | 7.01                    | 11          | 11           | 11              | 8.01   | <del>!!</del>         | 8.5!                                   |  |  |
| 410            |          | 11                      | 1)          | 7.51         | 11              | <u> </u>   | 11                    | 11                                     |  | ***************************************  |
| 420            | 11       | 11                      | 11          | 11           | 4.51            | 11   | ·                     | 9,01                                   |  |  |
| 430            |          |                         |             |              | *****           |  | 5.51                  |  |  |  |
| 440            |          |                         |             |              |                 |  |                       |  |  | ······································   |
| 450            |          |                         |             |              |                 | <del></del>  |                       |  |  |  |
| 460            |          |                         |             |              |                 |  |                       |  |  |  |
| 470            |          |                         |             |              |                 |  |                       |  |  |  |
| 490            |          |                         |             |              |                 |  |                       |  | ·  |  |
| 500            | <u>-</u> |                         |             |              |                 |  |                       |  | ····   |  |
| 510            |          |                         |             |              |                 |  |                       |  |  |  |
| 520            |          |                         |             |              |                 |  |                       | OVERA MACANITA PARTICION IN SECTION IN | ***************************************  | A SAN THE SECOND STATE OF THE SECOND STATE AND ADDRESS OF THE SECOND STATE ADDRESS OF THE SECOND STATE AND ADDRESS OF THE SECOND STATE AND ADDRESS OF THE SECOND STATE |
| 530            |          |                         |             |              |                 |  |                       |  |  |  |
| 540            |          |                         |             |              |                 |  |                       |  |  |  |
| 550            |          | <del></del>             |             | ·            |                 |  |                       |  |  |  |
| 560            |          |                         |             |              |                 |  |                       | *****                                  |  |  |
| 570            |          | <u> </u>                | <del></del> |              | <u> </u>        |  |                       |  |  |  |
| 580            |          |                         |             |              |                 |  |                       |  |  |  |
| 590            |          |                         |             |              |                 |  |                       |  |  |  |
| 500            |          |                         |             |              |                 |  |                       |  |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and noutral or

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3½ feet below . pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral,

LOADING DISTRICT

POWER CONDUCTOR

No. 4 7/1 ACSR TELEPHONE CONDUCTOR

| VA CR. CO.    | conderios            | Gro prosent or           |              |               |                     | Me   | dium        | TELEPHONE C | //L ACSR       | <u> </u>                              |
|---------------|----------------------|--------------------------|--------------|---------------|---------------------|--|-------------|-------------|----------------|---------------------------------------|
| separati      |                      | MAISON CONSTR            | regited CV   | i telaphona a | andunto-a           | All  |             | .102 E      | 4S 30% C       | onnerwe                               |
| SPAN          | 10515                | MINIMUM SE<br>Uling Span | PARATIO      | AT POLE       | DETWEEN             | POWER REUT                                       | TAL AND     | TELEPHONE   | COMPLICA       | De (Pa                                |
| LENGTH<br>FT. |                      |                          |              |               | O.O.                | ALTHO SPAN                                       | 7001 RU     | LING SPAN   | RUI            | ING SP                                |
| F1.           |                      | POWER COND.              |              | POWER COND.   | LOWER               | OWER COND.                                       | LOWER P     | OWER COND.  |                | WER COND                              |
| 200           | NEUTRAL              | SECONDARY                | HEUTRAL      | SECONDARY     | HEUTRAL             | SECONDARY  | HEUTRAL     | SECONDARY   | NEUTRAL        | SECONDAR                              |
| 210           |                      |                          | -            |               |                     |  |             |             | 1              |                                       |
| 220           | <del> </del>         | <b>_</b>                 | ļ            |               |                     |  |             |             |                |                                       |
| 230           | <del> </del>         | <del>-  </del>           | <del> </del> |               | <del> </del>        |  |             |             |                |                                       |
| 240           | <b> </b>             | <del></del>              | <del> </del> | <del></del>   | <del> </del>        |  |             | ·           |                |                                       |
| -250          | 3.51                 | 6.51                     | 2 5.         | <del> </del>  | <u> </u>            |  | ļ           |             |                |                                       |
| 260           | - <del>/ 9 / /</del> | 0.5.                     | 3,51         | 6,51          | 3.5                 | 6.51   | 4.01        | 7.01        | I              |                                       |
| 270           | 19                   | 10                       | <del> </del> | 11            | 11                  | lt   | 11          | P#          |                |                                       |
| 280           | 11                   | 11                       | 111          | 11            | 11                  |  | 11          | 11          |                |                                       |
| 290           | 11                   | -                        | <u>''</u>    | 11            | 11                  | 12   |             | lt .        |                |                                       |
| 300           | II.                  | 11                       | 7,           | 11            | 11                  |  | 17          | 11          |                |                                       |
| 310           | 11                   | 11                       | 11           | 11            | 4.01                | 7.01   | 4.51        | 7.5!        |                |                                       |
| 320           | 18                   | 11                       | 11           | 11            | 11                  | 11   | 11          | 11          |                | •                                     |
| 330           | 18                   | 11                       | 11           | 11            | 11                  | 11   | 11          | 11          |                |                                       |
| 340           | 11                   | 11                       | 11           | 11            | "                   | 11   | 11          | 11          |                |                                       |
| 350           | 11                   | 13                       | 18           | 11            | 11                  | 11   | 11          | 11          |                |                                       |
| 360           | Ħ                    | 13                       | 10           | 11            | 11                  | "  | 5,01        | 8.01        |                |                                       |
| 370           | Ħ                    | 10                       | 4.01         | 7.01          | 4.51                | <del> </del>                                     |             | 11          |                |                                       |
| 380           | l)                   | l!                       | · II         | 11            | <u></u>             | 7.51   | !!          | 11          |                |                                       |
| 390           | 11                   | 7.01                     | 11           | 19            | 11                  | <del>                                     </del> | <u> </u>    | 8.51        |                |                                       |
| 400           | 11                   | 19                       | 11           | 7.51          | 11                  | 8.01   | <u>5,51</u> | "           |                | ·· <del>-</del>                       |
| 410           | tt                   | 11                       | l†           | 11            | 11                  | 0.01   |             | 9.01        | <u> </u>       | <u> </u>                              |
| 420           | 4.01                 | 7.51                     | 11           | 8,01          | 5.01                | 8,51   |             | 0.5         |                |                                       |
| 430           | 11                   | 10                       | 4.51         | "             | <del>   0    </del> | 0,7  | 6.01        | 9.51        |                |                                       |
| 440           | 11                   | 18                       | IT           | 11            | 11                  | 9.01   | 11          | 10.01       |                |                                       |
| 450           | 18                   | 8.01                     | . 11         | 8.51          | 11                  | !!   | 11          |             |                |                                       |
| 460           | 11                   | 11                       | 11           | 11            | 11                  | 9.51   | 6.51        | 10.51       |                |                                       |
| 470           | l)                   | 8,51                     | 11           | 9.01          | 11                  | 11   | 11          | 11.0'       |                |                                       |
| 480           | it .                 | . 11                     | 11           | (1)           | 5.51                | 10,01  | 11          | 11.5        | <del> </del> - |                                       |
| 190           | 11                   | 9.01                     | 11           | 9.51          | !!                  | 11   | 7.01        | 11          |                | <del></del>                           |
| 500           | 11                   | - 11                     | 5.01         | 11            | lt .                | 10.51  | - 11        | 12.01       |                |                                       |
| 510           |                      | 9.51                     |              | 10.01         | t)                  | 11.01  | 7.51        | 12.51       |                | · · · · · · · · · · · · · · · · · · · |
| 520<br>530    | 17                   | "                        | <u> </u>     |               | 6.01                | 11   | li          | 11          |                |                                       |
| 140           | 1 5 1                | 10.01                    |              | 10.51         | 11                  | 11,51  | 11          | 13.01       |                |                                       |
| 550           | 4.51                 |                          |              |               | 11                  |  | H           | 13.51       |                |                                       |
| 60            | 11                   | 10.51                    | 11           | 11.01         | 11                  | 12.01  | 8.01        | 14.01       |                |                                       |
| 70            | 11                   | 11.01                    | 11           | 11,51         | 6.51                | 12.51  | . 17        | f1          |                |                                       |
| 80            | 11                   | LL <sub>0</sub> O'       | 5.51         |               |                     | 11   | 8.51        | 14.51       |                |                                       |
| 90            |                      |                          | 11           | 12.01         | 11                  | 13.01  | п           | 15.01       |                |                                       |
| 00            |                      |                          |              | <del></del>   |                     |  |             |             |                |                                       |
|               | The des              |                          |              |               |                     |  |             |             |                | ,                                     |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor, (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of eight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3. feet below neutral.

LOADING DISTRICT POWER CONDUCTOR

Medium

No. 4-7/1 ACSR

TELEPHONE CONDUCTOR

Then secondaries are present or plansed, use column "Secondary". All

.109 Grade 135 Steel

|               | l H          | ikinnn 3E  | PARATION    | AT POLE 8   | ETWEEN P | OMER HEUT | PAL AND     |           | ade 135  |   |
|---------------|--------------|------------|-------------|-------------|----------|-----------|-------------|-----------|----------|---|
| SPAN          | 425' RUI     | LING SPAN  | 5421 Rui    | LING SPAN   | 600 Rul  | ING SPAN  | 700 RUL     | ING SPAN  |          | ING SPA                                 |
| LENGTH<br>FT. |              | OWER COND. | 1           | OWER COND.  | 1        | WER COND. | <u> </u>    | WER COND. |          | WER COND.                               |
|               | HEUTRAL      | SECORDARY  | HEUTRAL     | SECONDARY   | NEUTRAL  | SECONDARY | NEUTRAL     | SECONDARY | NEUTRAL  | SECONDAR                                |
| 200           | ļ            |            |             |             |          |           |             |           |          |   |
| 210           |              | <u> </u>   |             |             |          |           |             |           |          |   |
| 220           |              |            |             |             |          |           |             |           |          |   |
| 230           |              |            |             |             |          |           |             |           |          |   |
| 240           |              |            |             |             |          |           |             |           |          |   |
| 250.          | 3.51         | 6.51       | 3,51        | 6.51        | 3.5      | 6.51      | 4.01        | 7.01      |          | , <del></del>                           |
| 260           | 18           | 11         | 11          | 11          | 11       | 11        | 17          | Ħ         |          | <del></del>                             |
| 270           | 11           | 11         | 17          | 11          | tt       | ŧŧ        | 19          | 79        | <u> </u> | <del></del>                             |
| 280           | н            | 11         | 11          | 11          | 17       | 11        | 11          | *1        |          | *************************************** |
| 290           | 11           | tt .       | lt .        | 11          | 4.01     | 11        | 4.51        | 19        |          |   |
| 300           | 11           | H          | 11          | 19          | 11       | 7.01      | 11          | Ħ         |          |   |
| 310           | 11           | 11         | H           | 11          | 17       | Ħ         | 11          | 7.51      |          |   |
| 320           | 11           | 17         | 11          | 17          | . 19     | 11        | 11          | 11        |          |   |
| 330           | 71           | n          | 11          | 11          | 11       | н         | Ħ           | Ħ         |          |   |
| 340           | 11           | 11         | 4.01        | Ħ           | 11       | 17        | 5.01        | 8.01      |          |   |
| 350           | 11           | !!         | !!          | 11          | 4.51     | 11        | 11          | 11        |          |   |
| 360           | 11           | 11         | н           | 7.01        | 11       | ti -      | 11          | - 11      |          |   |
| 370           | 11           | - 11       | , 11        | 11          | H        | 7,51      | 11          | f)        |          |   |
| 380           | - "          | 11         | 11          | 11          | 11       | n         | 5.51        | 8.51      |          |   |
| 390           |              | 17         | 11          | 11          | ††       | 11        | 11          | ff f      |          |   |
| 400           | 4.0'         | 7.01       | 1)          | n           | 11       | 8.01      | Ħ           | 9,01      |          |   |
| 410           | 10           |            | 4.51        | 7.51        | 5.01     | 11        | 6.01        | ti        |          |   |
| 420           | 11           | 7.51       | 11          | #           | 11       | 11        | !!          | 11        |          |   |
| 430           | 11           | " '        | 11          | 8.01        | 11       | 8.51      | 11          | 9.51      |          |   |
| 440           |              |            | 11          | tt .        | ††       |           | 6.51        | 10.0'     |          |   |
| 450           | 77           | 8.01       | 11          | 8.51        | 11       | 9,01      | II          | 19        |          |   |
| 460           | "<br>H       |            | 11          | 11          | 5.5'     | 11        | Ħ           | 10.51     |          |   |
| 470           |              | 8.51       |             | 9.01        | 11       | 9.51      | 7.01        | 11.01     |          |   |
| 480           | 4.5          |            | 5.01        |             | 11       | 11        | 11          | 11        |          | <del></del>                             |
| 490           | 17           | 9.01       | 17          | 9.51        | #        | 10.01     | 11          | 11.5      |          |   |
| 500<br>510    |              |            |             | 11          | 6.01     | 11        | 7.51        | 12.0      |          |   |
| 520           |              |            |             |             |          |           |             |           |          | <del></del>                             |
| 530           |              |            |             |             |          |           |             |           |          |   |
| 540           |              |            |             | <del></del> |          |           |             |           |          |   |
| 550           |              |            |             |             |          |           |             |           |          |   |
| 560           | <del></del>  |            |             | <del></del> |          |           |             |           |          |   |
| 570           | <del>-</del> |            |             |             |          |           |             |           |          |   |
| 580           |              |            | <del></del> |             |          |           | <del></del> |           |          |   |
| 590           |              |            |             |             |          |           |             |           |          |   |
| 500           | <del></del>  |            |             |             |          |           |             |           |          |   |

MOTES: The data shown in this table reflect the following basic minimum requirements:

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

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LOADING DISTRICT POWER CONDUCTOR No. 4 7/1 ACSR

TELEPHONE CONDUCTOR

Medium They secondaries are present or planted, use column "Secondary". All .109 Grade 190 Steel separations shown are between neutral and telephone conductors HIRINUM SEPARATION AT POLE BETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Feet) SPAN 425 RULING SPAN 542 RULING SPAN 600 RULING SPAN 700 TRULING SPAN RULING SPAN LENGTH FT. LOWER POWER CONO. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. MEUTRAL SECORDARY HEUTRAL SECONDARY NEUTRAL BECOHDARY NEUTRAL SECONDARY MEUTRAL SECONDARY 200 210 220 230 240 6,51 3.51 4,0 250 3.51 6,51 3,51 6.51 7.01 260 Ħ tt 11 4.0 7.01 11 11 270 18 Ħ 11 12 19 4.51 7.51 11 280 iŦ 11 Ħ 11 11 11 290 25 11 111 10 11 11 11 11 300 12 11 10ء 7.01 Ħ 11 !! Ħ 310 I 11 Ħ 11 5.01 10.8 320 12 18 11 11 4.51 7.51 11 11 330 الكميل Ħ 7.01 11 Ħ 11 19 11 340 11 13 11 11 11 11 11 350 If 15 11 11 11 11 5.51 8.51 360 11 18 . 51 7.51 Ш 11 H 370 17 Ħ 11 18 11 5.01 8,01 Ħ 380 Ħ 11 !! Ħ . II 11 6:01 9.01 390 н 12 Ħ 18 tt 11 Ħ 11 400 10 18 11 Ħ 11 11 ΙŶ 11 410 4.51 5 51 7.51 11 # 8.51 6.51 9,51 420 11 11 5.01 8.01 11 Ħ Ħ 430 Ħ If Iŧ 11 11 II 440 11 11 Ħ Ħ 11 9.01 7.01 10.01 450 п 12 8.01 8,51 6.01 Ħ 11

> in this table reflect the following basic minimum requirements: tration at pole between neutral or secondary and highest telephone bles do not include any consideration of minimum separation reir equipment is mounted on pole below the neutral). pan separation between highest telephone conductor and neutral or

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hen secondaries up to 750 volts are involved based on REA pole head configurations with neutral 3% feet below ires occupying a position at top of pole and lowest secondary 3

LOABING DISTRICT POWER CONDUCTOR

Medium

No. 6A Copperweld

TELEPHONE COMBUCTOR

en second. les are present or planned, use column "Secondary". All parations shows are between neutral and telephone conductors.

.080 HS 40% Copperwel HINIMUM SEPARATION AT POLE BETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Fee SPAN 450 TRULING SPAN 500 RULING SPAN 575 RULING SPAN RULING SPAN RULING SPA LENGTH LOWER POWER COND. FT. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. HEUTRAL BECOMDARY NEUTRAL BECONDARY MEUTRAL SECONDARY NEUTRAL SECONDARY NEUTRAL SECONDARY 200 210 220 230 240 250 3,51 6.51 3,51 6.51 3.51 260 It Ħ 11 18 11 270 н 11 11 u IÈ 280 11 11 11 11 11 11 290 11 # а 11 11 11 300 11 Ħ 11 п п 310 Ħ 11 11 18 Pŧ 11 320 Ħ Ħ Ħ 11 11 Ħ 330 11 П Iŧ 18 Ħ 11 340 11 11 11 11 It 11 350 Iŧ 11 11 11 It 11 360 il 11 18 11 11 11 370 н 11 H H 12 11 380 h ft 11 # I Ħ 390 11 # II 11 # Ħ 400 11 Ħ Ħ # Ħ 7.01 410 11 11 11 Ħ 420 11 Ħ 11 11 7.01 7.01 430 440 450 460 470 480 490 500 510 520 530

NOTES: The data shown in this table reflect the following basic minimum requirements:

- 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is sounted on pole below the neutral).
  - , 30-inch minimum midapan separation between highest telephone conductor and neutral or secondaries.
- 3. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pole head configurations with neutral 3½ feet below pole top and phase wires occupying a position at top of pole and lowest secondar " feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

Medium

No. 6A Copperweld

Then secondaries are present or planned, use column "Secondary". Alseparations shown are between neutral and telephone conductors.

102 FHS 30% Conner

|               | M        | are between n           | MAIGAGE      | COLORDODO CO | aductore.  |              | William Marian                                   | 1 TOS EN    | 5 30% C                                | opperwel         |
|---------------|----------|-------------------------|--------------|--------------|--|--------------|--|-------------|--|------------------|
| SPAN          | 1.501 BU | INIMUM SEI<br>Ling span | ECOTOR       | LING SPAN    | COC PU   | POWER NEUT   | HAL AND  | TELEPHONE   |  |                  |
| LENGTH<br>FT. |          | POWER COND.             |              | OWER COND.   | -  |              | <del></del>                                      | ING SPAN    | <del> </del>                           | ING SPAN         |
|               | HEUTRAL  | SECONDARY               | HEUTRAL      | SECONDARY    |  | OWER COND.   | T  | WER COND.   | 1                                      | WER COND.        |
| 200           |          | - Vacondani             | HEUTHAL      | SECONDARY    | HEUTRAL  | SECOHOARY    | NEUTRAL  | SECONDARY   | HEUTRAL                                | SECONDARY        |
| 210           |          |                         | <u> </u>     |              | <del> </del>                                     |              |  |             |  |                  |
| 220           | ·        | ·                       | <del> </del> |              |  | ·            |  | <u> </u>    |  | <del> </del>     |
| 230           | 1        |                         |              |              | <del> </del> -                                   | <del> </del> | <u> </u>   |             |  |                  |
| 240           |          | <u> </u>                | <del></del>  | <del> </del> | <u> </u>   |              |  |             |  |                  |
| 250           | 3.51     | 6.51                    | 3,51         | 6.51         | 3.5  | 6.51         |  |             |  | ļ                |
| 260           | 11       | , yaz                   | 11           | <u> </u>     | 1  | 1            |  |             | شبة الشبر إداراء فالكسا                |                  |
| 270           | †I       | 11                      | 11           | 11           | <del>                                     </del> | ; <u> </u>   |  |             |  | <del></del>      |
| 280           | 11       | 11                      | (1           | 11           | 11   | 11           | <del></del>                                      |             |  |                  |
| 290           | 11       | 11                      | It.          | 11           | 11:  | 11           |  |             | VII                                    |                  |
| 300           | 17       | 11                      | lt .         | II.          | 11   | 11           | <del></del>                                      | ·····       |  |                  |
| 310           | 11       | 11                      | 11           | 11           | 11   | 11           |  |             |  |                  |
| 320           | 11       | 11                      | II.          | 11           | 11   | . 11         | <del></del>                                      |             |  |                  |
| 330           | . 11     | 18                      |              | 11           | 11   | 11           |  |             | ·                                      | ·                |
| 340           | I#       | i f                     | †ţ           | l)           | 11   | H            |  |             | <del></del>                            |                  |
| 350           | 11       | !!                      | 11           | f1           | 11   | 11           |  |             | <del></del>                            | <del></del>      |
| 360           | 11       | 18                      | 11           | 11           | H  | 11           | ***********                                      |             |  |                  |
| 370           | 11       | 11                      | 11           | 11           | 11   | 10 /         |  | · ·         | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | <del></del>      |
| 380           | l P      | 19                      | 11           | 11           | If   | 11           |  |             | · · · · · · · · · · · · · · · · · · ·  |                  |
| 390           | . 11     | f)                      | 11           | 11           | 11   | 11           |  |             |  |                  |
| 400           | ti .     | If                      | 11           | †l           |  | 7.01         |  |             |  | <del></del>      |
| 410           | 11       | If .                    | 1f           |              | II .   | 11           | <del>'                                    </del> | <del></del> |  |                  |
| 420           | 11       | 11                      | 11           | 7.01         | 11   | 11           |  |             |  | <del></del>      |
| 430           | 11       | 7,01                    | 17           | 11           | 11   | 7.51         |  |             | ··········                             |                  |
| 440           | 11       | 11                      | 11           |              | 11   | 11           |  |             |  | <del></del>      |
| 450           | 11       | 11                      | lt .         | 7.51         | 11   | 11           |  |             |  | <del></del>      |
| 460           | II.      | 11                      | 11           | 11           |  | 8,01         |  |             |  |                  |
| 470           | 11       | 7.5                     | 11           | 8,01         | 11   | 11           |  | ·····       |  | <del></del>      |
| 480           | 11       | ii ii                   | it           | <br>         | 11   | 8,51         |  |             |  | <del>- 1-4</del> |
| 490           | 11       | 8.01                    | Ħ            | 11           | 11   | 11           |  |             |  | ·····            |
| 500           | 11       | 11                      | 11           | 8.51         | 4.01   | 11           |  |             |  |                  |
| 510           | 21       | 8,51                    | 11           | †9           | 11   | 9.01         | · · · · · · · · · · · · · · · · · · ·            |             |  |                  |
| 520           | 11       | 11                      | t!           | 9,01         | Ħ  | 11           |  |             |  |                  |
| 530           | - 11     | 9.01                    | 11           | Ħ            | ††   | 9.51         |  |             |  |                  |
| 540           | tt .     |                         | . 11         | 9.51         | 10   | 11           |  |             |  |                  |
| 550           | 11       | 9.51                    | 11           | 11           | . 10   | 10.01        |  |             |  |                  |
| 560           | <u> </u> | 11                      | - 11         | 11           | 11   | 11           |  | ĺ           |  |                  |
| 570           | 11 .     | 10.01                   | tt .         | 10,01        | 11   | 10.51        |  |             |  |                  |
| 580           | P)       | 11                      | tt           | Ħ            | 11   | 11           |  |             |  |                  |
| 390           | <u> </u> | 10.51                   | . II         | 10.51        | . (1   | 11.01        |  |             |  |                  |
| 500           |          | <u> </u>                | i            |              | T  |              |  |             |  |                  |

NOTES: The data shown in this table reflect the following basic minimum requirements:

1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are invalved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires accupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER COMPUCTOR

Medium

No. 6A Copperweld

TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All .109 Grade 135 Steel

|                 | N N        | re between ne<br>INIMUM SEF | ROITARA    | AT POLE 8 | ETYEEN P   | OMER HEUT  | RAL AND  | TELEPHONE | CONDUCTO     | ons (Feet |
|-----------------|------------|-----------------------------|------------|-----------|------------|------------|----------|-----------|--------------|-----------|
| SPAN<br>ENGTH   |            | ING SPAN                    | 5001 RUL   | ING SPAN  | 575 RUL    | ING SPAN   | RUL      | ING SPAN  |              | LING SPAN |
| FT.             | LOWER P    | OWER COMD.                  | LOWER PO   | WER COND. | LOWER PO   | WER COND.  | LOWER PO | WER COND. | LOWER PO     | WER COND. |
|                 | MEUTRAL    | SECONDARY                   | MEUTRAL    | SECONDARY | NEUTRAL    | SECONDARY  | HEUTRAL  | SECONDARY | HEUTRAL      | SECONDARY |
| 200             |            |                             |            |           |            |            |          |           |              |           |
| 210             |            |                             |            |           |            |            |          |           |              | ļ         |
| 220             |            |                             |            |           |            |            |          |           | <del></del>  |           |
| 230             |            |                             |            |           |            |            |          |           |              |           |
| 240             |            |                             |            |           |            |            |          |           |              |           |
| 250             | 3,51       | 6,51                        | 3,51       | 6,51      | 3.51       | 6.51       |          |           |              |           |
| 260             | 11         | II.                         | 11         | 11        | 11         | 11         |          |           |              |           |
| 270             | 18         | ΙŤ                          | ıı         | EI .      | ŧŧ         | 11         |          |           |              | <u> </u>  |
| 280             | 11         | 1)                          | I <b>†</b> | 11        | lt .       | at .       |          |           |              | <u> </u>  |
| 290             | 11         | tt '                        | 11         | H         | n          | tŷ         |          |           |              |           |
| 300             | 18         | 1)                          | 11         | 11        | 11         | 11         |          |           |              |           |
| 310             | 18         | 11                          | 11         | 11        | †1         | 11         |          |           |              |           |
| 320             | I <b>İ</b> | 1)                          | 11         | 11        | 11         | 11         |          |           |              |           |
| <del>3</del> 30 | 18         | 11                          | 11         | 11        | li         | 11         |          |           |              |           |
| 340             | 11         | 11                          | 11         | 11        | 11         | Ħ          |          |           |              |           |
| 350             | 10         | 11                          | 11         | II.       | 11         | 11         |          |           |              |           |
| 360             | 18         | 11                          | 11         | II.       | l <b>i</b> | 11         |          |           |              |           |
| 370             | 11         | 11                          | 11         | 18        | 11         | 11         |          |           |              |           |
| 380             | 18         | 11                          | · II       | H         | 11         | H          |          |           |              |           |
| <b>390</b>      | 11         | 11                          | 11         | 11        | 11         | 11         |          |           |              |           |
| 400             | 11         | 11                          | 11         | 11        | 11         | 7,01       |          |           |              |           |
| 410             | 11         | 11                          | !f         | 11        | 11         | 11         |          |           |              |           |
| 420             | 11         | 7.01                        | lt .       | 7.01      | 11         | 11         |          |           |              |           |
| 430             | 11         |                             | 11         | ļļ.       |            | 7.51       |          |           |              |           |
| 440             | 11         | 11                          | 11         | l]        | 11         | 11         |          |           |              |           |
| 450             | 11         | 7.51                        | 11         | 7,51      | 4.01       | 19         |          |           |              |           |
| 460             | 11         | 1!                          | !1         | 11        | 11         | 8,01       |          |           |              |           |
| 470             | 11         | . 11                        | 11         | 8,01      | 11         | t I        |          |           |              |           |
| 480             | 11         | 8.01                        | II.        | tt        | 11         | J!         |          |           |              |           |
| 490             | 11         | i t                         | #1         | 11        | 11         | 8,51       | <u></u>  |           |              |           |
| 500             | H          | 11                          | (1         | 8.51      | 11         | I1         |          |           |              | -         |
| 510             | 11         | 8.5                         | 4.01       | tt        | 11         | 9.01       |          |           |              | <u> </u>  |
| 520             | 11         | I†                          | II         | 9.01      | 11         | ŧŧ         | ,        |           |              |           |
| 530             | 11         | 9.01                        | :1         | 11        | 11         | 9.51       |          |           |              |           |
| 540             | - 11       | 11                          | 11         | 11        | 4.51       | t)         |          |           |              |           |
| 550             | 11         | 9.51                        | 11         | 9,51      | 11         | 10.01      | <u> </u> |           |              |           |
| 560             | 4.01       | 11                          | 11         | 11        | 11         | . 11       | <u> </u> |           | <del> </del> |           |
| 570             | 11         | 10.0                        | 11         | 10.01     | . II       | 10.51      | <u></u>  |           |              |           |
| 580             | tt         | It                          | 11         | 11        | 11         | l <b>f</b> |          |           |              |           |
| 590             | 11 .       | 10.51                       | 11         | 10.5      | ()         | 11.01      | <b></b>  |           |              |           |
| 600             | 1          | 1                           | 1          | l         |            | 1          | i        |           | 1            |           |

MOTES: The data shown in this table reflect the following basic minimum requirements:

- 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).
- 2. 30-inch minimum midspan separation between highest telephone conductor and neutral or
- 3. Line of sight rule when secondaries up to 750 vol
- 4. All separations are based on REA pole head config
  - pole top and phase wires occupying a position at feet below neutral.

LOADING DISTRICT

POWER COMOUCTOR

Medium

No. 6A Copperweld

TELEPHONE CONDUCTOR

on noccoderies are present or planned, use column "Secondary".
Parations shows are between neutral and telephone conductors.

.109 Grade 190 Steel

| Paruel   | one shown o                             | re between no  | utral and  | telephone con | eductors.    | AUS MELT  | AH AH A  | TELEBRORE  |  | Rs (Feet)   |
|--|---|--|--|---------------|--------------|-----------|--|--|--|-------------|
| SPAN   | CONTRACTOR NAMED IN COLUMN TWO IS NOT   |  |  | ING SPAN      | ETWEEN P     | ING SPAN  | RUL  | ING SPAN   |  | ING SPAN    |
| Span<br>Length<br>Ft.  |   |  | A STATE OF THE PERSON NAMED IN   | WER COND.     |              | WER COND. | <del> </del>   | WER COND.  | LOWER PO   | WER COND.   |
|  | *************************************** | OWER COND.   | The same of the sa |               | -/1×31-96    | SECONDARY | NEUTRAL  | SECONDARY  | NEUTRAL  | SECONDARY   |
| 200  | NEUTRAL                                 | SECONDARY  | HEUTHAL  | SECONDARY     | HEUTRAL      | BECOMONNY | HEOTINE  | 300000000000000000000000000000000000000          | NAUTHAL  | 0200        |
| 210  |   | And the second s |  |               |              |           |  |  | <del> </del>                                     |             |
| 530  | -                                       |  |  |               |              |           | ······································   |  |  |             |
| 530  |   |  |  |               |              |           |  |  | <del>                                     </del> |             |
| 240  |   | **************************************   |  |               |              |           |  |  | <u> </u>   |             |
| And the state of t | _ ^ ~ ·                                 |  | 3.51   | 6.51          | 3,51         | 6.51      |  | <u> </u>   |  |             |
| 250<br>250   | 3,51                                    | 6,51   |  | 11            |              | 11        | Marie Committee of the last of |  |  | ***         |
| 270  | 11                                      |  | 11   |               |              | 17        | <u> </u>   | <del> </del>                                     |  |             |
| 280  | 1                                       | 19   | 11   | ll .          | <u>;1</u>    | 11        |  |  |  |             |
| 290  | increase and a second                   | 11   | 11   | <u> </u>      |              | It.       | -  |  | **************************************           |             |
| 300  | 11                                      | 11   | 11   | 11            | II.          | 11        |  |  |  |             |
| 320  | 17                                      | II.  | 11   | II.           | II.          | H         | 1  |  |  |             |
| 320  | 11                                      | 11   | 11   | 11            | řt.          | 11        | ***************************************  |  |  |             |
| 330  | . If                                    | II.  | 11   | II            | 11           | 11        |  |  |  |             |
| 340  | 11                                      | ļ†   | 11   | 11            | It           | II.       |  |  |  |             |
| 350  | 11                                      | It   | 11   | 11            | 11           | 11        |  |  |  |             |
| 360  | 11                                      | 11   | ()   | it            | 4.01         | 7.01      |  |  |  |             |
| 370  | !!                                      | 6.51   | 11.  | 11            | ti .         | 11        |  |  |  |             |
| 380  | 11                                      | II '   | 11   | , 11          | 11           | 11        |  | Ì  |  |             |
| 390  | 11                                      | Ħ  | 4,01   | 7.0'          | 11           | Н         |  |  |  |             |
| 400  | tt .                                    | I\$  | tt   | - 11          | (1           | 11        |  |  |  |             |
| 410  | 4,01                                    | 7.01   | Ħ  | 11            | 11           | l1        |  |  |  |             |
| 420  | 10                                      | !1   | 11   |               | 11           | 11        |  |  |  |             |
| 430  | t <b>t</b>                              | 11   | 11   | H             | 11           | 7.51      |  |  |  |             |
| 440  | . 11                                    | 11   | H  | 11            |              | 11        |  | <u>}</u>   |  |             |
| 450  | If                                      | 7.51   | lf .   | 7.51          | 4.51         | ll II     |  | <u> </u>   |  |             |
| 460  | l <del>1</del>                          | lt .   | 11   | il .          | 11           | 8.01      |  |  |  |             |
| 470  | 17                                      | 11   | 11   | 8.01          | 11           | 11        |  |  |  |             |
| 480  | 11                                      | 8.01   | 4.51   | 11            | 11           | 8.51      |  |  |  |             |
| 490  | 11                                      | - 11   | - 11   | 11            | <u> </u>     | 11        |  |  |  | <u> </u>    |
| 500  | 11                                      | 11   |  | 8,51          | " 04         | "         |  | ļ  |  |             |
| 510  | 4.51                                    | 8,51   | <u> </u>   | 11            | 5 <u>.01</u> | 9,01      | <u> </u>   |  |  | 1           |
| 520  | 11                                      | \(\frac{1}{\chi}\)   | 11   | 9.01          | 11           | 0.51      | ļ  |  |  |             |
| 530  | <del> </del>                            | 9.01   | 11   | 11            | <del> </del> | 9,51      | <del> </del>   | <del>                                     </del> |  |             |
| 540  | <del> </del>                            | 9.51   | "  | 9.51          | 11           | 10.01     |  | <u> </u>   | <del> </del>                                     |             |
| 550<br>560   | 11                                      | 7.7  | 5.01   | 7.2           | 11           | 10.0.     |  | <del> </del>                                     |  | <del></del> |
| 570  | 1 11                                    | 10.0'  | ) <u>),</u>  | 10.01         | 5.51         | 10.5      | <del> </del>   | <del> </del>                                     |  |             |
| 580  | 5.01                                    | 10.0   | 11   | 10.0.         | 2.2.         | 10.5      | <del> </del>   | <del> </del>                                     |  |             |
| 590  | 11<br>11                                | 30.51  | 11   | 10.51         | 11           | 11.01     | <b></b>  |  | <del> </del>                                     |             |
| 600  |   |  | <del>                                     </del>   |               | <u> </u>     |           | <del>                                     </del>   | 1  |  |             |
|  | مستحد يسبطي                             | L  |  |               |              |           | <u></u>  |  |  | <del></del> |

HOTES: The data shown in this table reflect the following basic minimum requirements:

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or gocondaries.

Lime of sight rule when secondaries up to 750 volts are involved.

All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT POWER CONDUCTOR

Medium

No. 6 HD Copper TELEPHONE CONDUCTOR

.080 HS 40% Copperweld

Then secondaries are present or planted, use column "Secondary" esparations shown are between neutral and telephone conductors. MINIHUM SEPARATION AT POLE BETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Feet) 3301 RULING SPAN 3501 RULING SPAN 395 TRULING SPAN RULING SPAN RULING SPAN SPAN LENGTH LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND SECONDARY NEUTRAL SECONDARY HEUTRAL SECONDARY NEUTRAL SECONDARY NEUTRÁL SECONDARY NEUTRAL 200 210 220 230 240 5.01 4.51 4.51 7.51 8,01 250 7.51 5.51 8.51 5.01 8.01 260 tt ii. 15 270 11 ti Iŧ 11 8.01 280 5.01 6.01 9.01 290 5.51 8.51 300 Ħ Ħ 11 18 11 6.51 9.51 310 5.51 6.01 9.01 8.51 320 II 11 Ħ Ħ Ħ Ħ 330 II 11 7.01 11 11 11 6.51 9.51 11 10.0! 340 6.01 9.01 7.51 10.51 350 lt. IF 11 12 360 Ħ 11 6.51 9.51 10.01 8.01 11.01 10.51 370 11 10.0 7.01 11.51 11 10 ## н 11 380 7.01 8.51 12.01 7.51 יס.בנ 10.51 390 12.51 11 11.0 11 11.5 400 12.0 9.01 13.01 410 7.51 8.01 9,51 11.51 13.51 420 430 440 450 460 470 480 490 500 510 520

The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

2. 30-inch minimum midspan separation between highest telephone conductor and neutral or

3. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER COMOUCTOR

Medium

No. 6 HD Copper TELEPHONE CONDUCTOR

|              |             | UN REA CLE    |   |                               |            | Me                | dium     | TELEPHONE CO       | DHOUCTOR     |                                       |
|--------------|-------------|---------------|---|-------------------------------|------------|-------------------|----------|--------------------|--------------|---------------------------------------|
| 4 000<br>000 | conderies a | re present er | planned, wa<br>outral and               | e column "Sec<br>telephone co | ondary". / | NII               |          | .102 EH            | IS 30% C     | opperweld                             |
|              | H #         | INIHUM SE     | PARATION                                | AT POLE                       | ETWEEN P   | OVER NEUT         | RAL AND  | TELEPHONE CONDUCTO |              |                                       |
| SPAN         |             | LING SPAN     |   | LING SPAN                     | 395 IR UI  | ING SPAN          |          | ING SPAN           | HULTING SPAN |                                       |
| IGTH<br>T    |             | OWER COND.    | LOWER POWER COND.                       |                               | LOWER PO   | LOWER POWER COND. |          | WER COND.          | LOWER PO     | WER COND.                             |
|              | NEUTRAL     | SECOMBARY     | NEUTHAL                                 | SECONDARY                     | HEUTRAL    | SECONDARY         | NEUTRAL_ | SECONDARY          | HEUTRAL      | SECONDARY                             |
| 00           | 1           | <del></del>   | 1                                       |                               | 1          |                   |          |                    |              |                                       |
| 10           | <u> </u>    |               |   |                               |            |                   |          |                    |              |                                       |
| 20           |             |               |   |                               |            |                   |          |                    |              |                                       |
| 30           |             |               |   |                               |            |                   |          |                    |              |                                       |
| 40           |             |               |   |                               |            |                   |          |                    |              |                                       |
| 50           | 4.51        | 7.51          | 5.01                                    | 8.01                          | 5.01       | 8.01              |          |                    |              |                                       |
| 60           | 5.01        | 8,01          | 11                                      | 11                            | 5.51       | 8.51              |          |                    |              |                                       |
| 70           | †I          | 11            | 11                                      | 16                            | 11         | '1                |          |                    |              |                                       |
| 80           | 11          | 4             | 5.51                                    | 8.51                          | 6.01       | 9.01              |          |                    |              |                                       |
| 90           | 5.51        | 8.51          | tr                                      | 11                            | ]1         | 11                |          |                    |              |                                       |
| 00           | it .        | tt.           | 6.01                                    | 9.01                          | 6.51       | 9.51              |          |                    |              |                                       |
| 10           | li .        | 11            | tt                                      | 1!                            | 13         | II.               |          |                    |              |                                       |
| 50           | 6.01        | 9.01          | 11                                      | l†                            | 7.01       | - 10.01           |          |                    |              |                                       |
| 30           | 11          | 11            | 6.51                                    | 9.51                          | I f        | II                |          |                    |              |                                       |
| 40           | 11          | 11            | 11                                      | l†                            | 7.51       | 10.51             |          |                    |              |                                       |
| <u> </u>     | 6.51        | 9.51          | 7.01                                    | 10.01                         | 11         | II                |          |                    |              |                                       |
| 50           | 11          |               | 11                                      | 11                            | 8.01       | 11.0'             |          |                    |              |                                       |
| 70           | 7.01        | 10.0          | 7.5!                                    | 10.51                         | 11         | II.               |          |                    |              |                                       |
| 80           | 11          | II.           | 11                                      | II                            | 8.51       | 11.51             |          |                    |              |                                       |
| 90           | 7.51        | 10.51         | 8.01                                    | 11.0'                         | 9.01       | 12.01             |          | <u> </u>           |              |                                       |
| 00           | 11          | 11.01         | ti                                      | 11.51                         | 17         | 12.51             |          |                    |              |                                       |
| 10           | 8.01        | 11            | 8.51                                    | 12.0'                         | 9.51       | 13.01             |          |                    |              |                                       |
| 50           | 1!          | 11.5!         | 11                                      | 12.5'                         | 10.0'      | 13.51             |          |                    |              |                                       |
| 30           | 8.51        | 12.01         | 9.01                                    | 13.0'                         | 11         | 14.01             |          |                    |              |                                       |
| £0           | ()          | 12.51         | 9.51                                    | 11                            | 10.5       | 14.51             |          |                    |              |                                       |
| 50           |             |               | ) f                                     | 13.51                         | 11.01      | 15.01             |          |                    |              |                                       |
| 50           |             |               | 10.0'                                   | 14.01                         | 11         | 15.51             |          | •                  | •            |                                       |
| 70           |             |               |   |                               | 11.5'      | 16.01             |          |                    |              |                                       |
| ВО           |             |               |   |                               | 12.01      | 16.51             | <u> </u> |                    |              |                                       |
| 0            |             | ······        |   |                               | 12.51      | 17.01             |          |                    |              | · · · · · · · · · · · · · · · · · · · |
| 0            |             |               | *************************************** |                               | 13.0'      | 17.51             |          | ,                  |              |                                       |
| .O<br>2O     | ·           |               |   |                               | 13.51      | 18.01             |          |                    |              |                                       |
| 0            |             |               |   |                               |            |                   |          |                    |              | ····                                  |
| 0            |             | ····          |   |                               |            |                   |          |                    |              |                                       |
| 50           |             |               |   |                               |            |                   |          | <del></del>        |              |                                       |
| 0            |             |               |   |                               |            |                   |          |                    |              |                                       |
| 0            |             |               |   |                               |            |                   |          |                    |              | <u> </u>                              |
| 0            |             |               |   |                               |            | ****              |          |                    |              |                                       |
| 0            |             |               |   |                               |            |                   |          |                    |              |                                       |
| 0            |             |               |   |                               |            |                   |          |                    |              |                                       |
| E3:          | The de      | !             |   | shie refl                     |            |                   |          | <u></u> j          |              |                                       |
|              |             | ·             |   |                               |            |                   |          |                    |              |                                       |

The data shown in this table reflect the following basic minimum requirements: 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation recuirements when power equipment is mounted on pole below the neutral).

C-inch minimum midspan separation between highest telephone conductor and neutral or geconderies.

Line of sight rule when secondaries up to 750 volts are involved.

All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT POWER CONDUCTOR

Medium

No. 6 HD Copper TELEPHONE CONDUCTOR

scondaries are present or planned, use column "Secondary". All tions shown are between neutral and telephone conductors.

.109 Grade 135 Steel

| ns shown c                                | re betseen ne                                    | patral and                                       | telephone co                                     | hauctors.  | A.100        |  |                       | age L           |          |
|---|--|--|--|--|--------------|--|-----------------------|-----------------|----------|
|   | HINUM SEF  | ARATION  | AT POLE B  | STHEER P   | OWER NEUT    | RAL AND  | TELEPHONE<br>Ing Span | COMDUCTO        | ING SFA  |
|   | ING SPAN   | 1  |  |  |              | <del> </del>                                     |                       | <del> </del>    |          |
|   | OWER COMD.                                       |  | WER COND.  |  | WER COND.    |  | WER COND.             | LOWER POWER COM |          |
| HEUTRAL                                   | SECONDARY  | HEUTRAL  | SECONDARY  | HEUTRAL,   | SECONDARY    | MEUTRAL  | SECONDARY             | NEUTRAL.        | SECONDAR |
|   |  |  |  |  | <u> </u>     |  |                       |                 |          |
|   |  |  | <u> </u>   | <u> </u>   |              | <u> </u>   | ļ                     | ļ               |          |
|   |  | <u> </u>   | <u> </u>   |  | ,            |  |                       | ļ               |          |
| القدائم واستاراتها والمالية والمشجورة وور |  |  | <u> </u>   |  |              |  |                       | <del> </del>    | <u> </u> |
|   |  | <b></b>  | <u> </u>   |  |              |  |                       | <u> </u>        |          |
| 4.51                                      | 7.51   | 5.01   | 8.01   | 5.51   | 8.51         |  |                       |                 |          |
| 5.01                                      | 8,01   | - 11   | lt .   | 11   | 11           |  |                       | <u> </u>        |          |
| - 11                                      | 11   | 11   | ŧŧ   | 11   | 17           |  |                       | <u> </u>        |          |
| 19  | 98   | 5.51   | 8.51   | 6.01   | 9.0?         | <u> </u>   |                       | <u> </u>        |          |
| 5.51                                      | 8,51   | tt   | lt .   | ll l   | 11           | <u> </u>   |                       |                 |          |
| 21  | H  | 6.01   | 9.01   | 6,51   | 9,51         |  |                       | <u> </u>        |          |
| 11  | - 11   | 11.  | 11   | 11   | 11           |  |                       |                 |          |
| 6.01                                      | 9,01   | 6.51   | 9.51   | 7.01   | 10.01        |  |                       |                 |          |
| 11  | . 11   | R  | 11   | 11   | lf .         |  |                       |                 |          |
| 6.51                                      | 9.51   | 7.01   | 10.01  | 7.51   | 10.51        |  |                       |                 |          |
|   | 11   | 11   | 11   | 8.01   | 11,01        |  |                       |                 |          |
| 11  | 10.01  | 7.51   | 10.51  | 11   | ll.          |  |                       |                 |          |
| 7.01                                      | 11   | 11   | 11   | 8.51   | 11.51        |  |                       |                 |          |
| _ <del></del><br> }                       | 10.51  | 8.01   | 11.01  | 11   | 10           |  |                       |                 |          |
| 7.51                                      | 11   | 11   | 11   | 9.0!   | 12,01        |  |                       |                 |          |
| 8.01                                      | 11.0'  | 8.51   | 11.51  | 9.51   | 12.51        |  |                       |                 |          |
| . <u></u>                                 | 11   | 11   | 12.0'  | 11   | 13.01        |  |                       |                 |          |
| 8.51                                      | 11.51  | 9.01   | 12.5'  | 10.0   | 13.51        |  |                       |                 |          |
| 11  | 12.0   | 11   | 13.0'  | 10.5   | 14.0'        |  |                       |                 |          |
| 9.01                                      | 12.51  | 9.51   | 11   | 11   | 14.51        | <u> </u>   |                       |                 |          |
| <u> </u>                                  | 16.5   | 10.0   | 13.51  | 11.01  | 15.01        |  |                       |                 | 1        |
|   |  | 110.0.   | 14.0   | 11.5'  | 15.51        | <del> </del>                                     |                       |                 |          |
| ···                                       | <u> </u>   | <del> </del>                                     | 14.9   | 12.0   | 16.01        | <u> </u>   | <del> </del>          |                 |          |
| ······                                    |  | <del> </del>                                     | <del> </del>                                     | 11   | 16.51        |  | <del> </del>          |                 | <u> </u> |
|   |  |  | <u> </u>   | 12.51  | 17.01        | 1  |                       |                 |          |
|   | <del>                                     </del> |  | ·  | 13.01  | 17.51        | <del>                                     </del> |                       |                 |          |
|   | ļ  | <del>                                     </del> | <del>                                     </del> | 13.5'  | 18.01        | 1  | 1                     |                 |          |
|   |  | <del> </del>                                     | <del>                                     </del> | <del>                                     </del> |              |  |                       |                 |          |
| <del></del>                               |  |  | <del> </del>                                     | +  |              | 1  |                       |                 |          |
|   | <u> </u>   | <del>                                     </del> |  |  |              | 1  |                       |                 |          |
|   |  | <del></del>                                      |  |  | <u> </u>     | <del>                                     </del> |                       |                 | 14       |
| · .                                       | <del> </del>                                     | <del></del>                                      | <del> </del>                                     | 1  |              |  |                       |                 |          |
| (   |  | <del> </del>                                     | <del>                                     </del> | 1  | <del> </del> | 1  |                       | 1               | 1        |
|   | <del> </del>                                     | <del> </del>                                     | <del>                                     </del> | <del>                                     </del> |              | †  |                       |                 |          |
|   |  | <del> </del>                                     | <del> </del>                                     | <del> </del>                                     |              | <del> </del>                                     |                       |                 |          |
|   |  | +  | <del> </del>                                     | <del>                                     </del> |              | <b>1</b>   |                       |                 |          |

<sup>3:</sup> The data shown in this table reflect the following basic minimum requirements: )-inch minimum separation at pole between neutral or secondary and highest telephone anductor. (These tables do not include any consideration of minimum separation regirements when power equipment is mounted on pole below the neutral). D-inch minimum midspan separation between highest telephone conductor and neutral or

ine of sight rule when secondaries up to 750 volts are involved.

Li separations are based on REA pole head configurations with neutral 3% feet below ple top and phase wires occupying a position at top of pole and lowest secondary 3 pet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6 HD Copper TELEPHONE CONDUCTOR

| 22.00  |              |               | LOTATO POL                |   |                       |   | Medium                                 | TELEPHONE C                | ONDUCTOR     | <u>•</u>                               |  |
|--------|--------------|---------------|---------------------------|---|-----------------------|---|--|----------------------------|--------------|--|--|
| parat. | ross sposs   | ora peracen i | probred ne<br>probred orq | e column "Sec<br>telephone co                       | ondery".<br>nductors. | A11                                     |  | .109 Gr                    | ade 190      | Steel                                  |  |
| SPAN   | 2201 2       | HINIMUH SE    | PARATION                  | AT POLE   | ETYEER P              | ONES HE                                 | UTRAL AND                              | TELEPHONE CONDUCTORS (Feet |              |  |  |
| ENGTH  | 1220.40      | JEING JEKN    | טאיטכנן                   | LING SPAN   | 3951 40               | LING SPA                                | N RU                                   | LING SPAN                  |              | LING SPAN                              |  |
| FT.    |              | POWER COMO.   | LOWER POWER COND.         |   | LOWER POWER COND.     |   | . LOWER P                              | OWER COND.                 | LOWER PO     | WER COND.                              |  |
| 200    | JARTUBH      | SECONDARY     | NEUTRAL                   | SECONDARY   | HEUTRAL               | 3 ECONDAR                               | Y HEUTRAL                              | SECONDARY                  | HEUTRAL      | SECONDARY                              |  |
| 210    | <u> </u>     |               | <del></del>               | <del> </del>  |                       |   |  | ļ                          |              |  |  |
| 220    | <del></del>  |               | <del> </del>              | <del> </del>  |                       |   |  |                            | <u> </u>     | ļ                                      |  |
| 230    | <u> </u>     |               | <del></del>               | <del>  ,                                     </del> | <del> </del>          | <del> </del>                            |  | ļ                          | ļ            |  |  |
| 240    | <del> </del> |               | <del> </del>              | <del> </del>  | <del> </del>          | <del> </del>                            | <del></del>                            |                            | <u> </u>     |  |  |
| 250    | 5.01         | 8.01          | 5.01                      | 8.01  | 5.51                  | 1 2 50                                  |  |                            | <u> </u>     | ļ                                      |  |
| 260    | 11           | 1 11          | 5,51                      | 8.51  | 1 2.2'                | 3.51                                    |  |                            |              | ļ                                      |  |
| 270    | 11           | 71            | 1 7 7 7 1                 | 0,2'  | 6.01                  |   |  |                            |              |  |  |
| 280    | 5.51         | 8.51          | 11                        | 19  | 11 O A U '            | 9.01                                    |  | <del> </del>               | ļ            |  |  |
| 290    | 11           | 11            | 6.01                      | 9.01  | 6.51                  | 9.51                                    |  | <del></del>                | <del> </del> |  |  |
| 300    | 6.01         | 9.01          | II                        | 11  | H H                   | 7.2'                                    |  |                            | <del> </del> |  |  |
| 310    | 17           | 11            | 6.51                      | 9.51  | 7.01                  | 10.01                                   | ······································ |                            | <del> </del> |  |  |
| 320    | 11           | 11            | 11                        | 11  | 11                    | 11                                      | <del>-  </del>                         | <del> </del>               |              |  |  |
| 330    | 6.51         | 9.51          | 7.01                      | 10.01   | 7.51                  | 10.51                                   | ······                                 | <b>!</b>                   | <del> </del> |  |  |
| 340    | 11           | , 11          | t1                        | 11  | 8.01                  | 11.0                                    |  |                            |              |  |  |
| 350    | 7.01         | 10.0          | 7.51                      | 10.5  | 11                    | II                                      | <del></del>                            | <del> </del>               |              |  |  |
| 360    | I f          | 1#            | 18                        | 11  | 8.51                  | 11.51                                   |  |                            |              |  |  |
| 370    | 7.51         | 20.5          | 8.01                      | 11.0'   | 11                    | ii ii                                   |  |                            |              | ······································ |  |
| 380    | tt .         | 10            | 11                        | 19  | 9.01                  | 12.0                                    |  |                            |              |  |  |
| 190    | 8.01         | 11.01         | 8.51                      | 11.5'   | 9.51                  | 12.51                                   |  |                            |              |  |  |
| 00     | #            | 11            | I†                        | 11  | lt                    | If                                      |  |                            |              |  |  |
| 10     | 8.51         | 11.5          | 9.01                      | 12.01   | 10.01                 | 13.0'                                   |  |                            |              |  |  |
| 20     | 9,01         | 12.0          | 9.51                      | 12,51   | 10.51                 | 13.51                                   |  |                            |              |  |  |
| 30     | !!           |               | 11                        | Н   | 11.01                 | 14.01                                   | <u> </u>                               |                            |              |  |  |
| 40     | <u>9.51</u>  | 12.5'         | 10.01                     | 13.01   | 13                    | 14.51                                   |  |                            |              | -                                      |  |
| 60     | 11           | 13.0          | 10.51                     | 13.51   | 11.51                 | 15.01                                   |  |                            |              |  |  |
| 70     | 10.01        | 13.51         | H                         | 14.01   | 12.0                  | 15.51                                   |  | <u> </u>                   |              |  |  |
| 80     | 10.51        | 14,01         | 11.0                      | 14.51   | 12.5                  | 16.01                                   |  | ļ                          |              | ····                                   |  |
| 90     | 11.0         | 14.5!         | 11.5!                     | 15.01   |                       |   | <del>-  </del>                         |                            | <del></del>  | ····                                   |  |
| 00     | II II        | 15.0          | 12.0'                     | 15.51   |                       | <del></del>                             |  |                            | ·            |  |  |
| 10     | 11.51        | 15.5          | 12.5!                     | 16.51   |                       | <del></del>                             |  |                            |              |  |  |
| 20     | 12.01        | 16.01         |                           | 10.34   |                       |   |  | <del></del>                |              |  |  |
| 30     | 12.51        | 16.51         | ·····                     |   |                       |   | ·                                      | <del></del>                |              |  |  |
| 40     |              |               |                           |   |                       |   |  |                            |              |  |  |
| 50     |              |               |                           |   |                       |   |  |                            |              |  |  |
| 60     |              |               |                           |   |                       | <del></del>                             |  |                            |              |  |  |
| 70     |              | ,             |                           | <u> </u>  |                       | <del></del>                             |  |                            | **           |  |  |
| 80     |              |               |                           |   |                       | *************************************** |  |                            |              |  |  |
| 90     |              |               |                           |   |                       |   |  |                            |              |  |  |
| 00     |              |               |                           |   |                       |   |  |                            |              |  |  |
| res:   | The day      | ta shown i    |                           | - L L / L -   |                       | 4 4 4 4                                 |  |                            |              |  |  |

TES: The data shown in this table reflect the following basic minimum requirements: 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation, requirements when power equipment is mounted on pole below the neutral). 30-inch minimum midspan separation between highest telephone conductor and neutral or .secondaries.

Line of sight rule when secondaries up to 750 volts are involved.

All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 8A Copperweld

TELEPHONE CONDUCTOR

| Thon see    | condesies a                                      | re present or |  |                               | Medium                                |  | TELEPHONE CONDUCTOR |                            |              |             |
|-------------|--|---------------|--|-------------------------------|---------------------------------------|--|---------------------|----------------------------|--------------|-------------|
| separat     | ereda saci                                       | ore between n | eutral and                                       | e columa "Sec<br>telephone co | aductors.                             |  |                     | .080 HS 40% Copperweld     |              |             |
| SPAN        | M M  | INIMUM SE     | PARATION   | AT POLE                       | ETWEEN P                              | OREB HEL                               | TRAL AND            | TELEPHONE CONDUCTORS (Feet |              |             |
| LENGTH      |  | LING SPAN     | 500 RULING SPAN                                  |                               |                                       |  |                     | ING SPAN                   | RUI          | ING SPAN    |
| FT.         |  | OWER COND.    | 1  | OWER COND.                    |                                       | WER COND.                              |                     | WER COND.                  | LOWER PO     | WER COND.   |
|             | HEUTRAL  | SECONDARY     | NEUTRAL  | SECONDARY                     | NEUTRAL                               | SECONDAR                               | NEUTRAL             | SECONDARY                  | MEUTRAL      | SECONDARY   |
| 200<br>210  | <del> </del>                                     | <del> </del>  | <del> </del>                                     | <del> </del>                  | <del> </del>                          | <u> </u>                               | _                   | <del> </del>               | ļ            |             |
| <del></del> | <u> </u>   | <del> </del>  | <del></del>                                      | <del> </del>                  |                                       | <del> </del>                           | <u> </u>            |                            |              |             |
| 220         | <del> </del>                                     | <del> </del>  | <del> </del>                                     |                               |                                       | <u> </u>                               | <del></del>         | <u> </u>                   | ļ            |             |
| 240         | <del> </del>                                     |               | <del> </del>                                     | <del> </del>                  | <del> </del>                          |  |                     | <del></del>                |              | <u> </u>    |
| 250         | 3,51   | 6.51          | 3,51   | 6.51                          | 3.51                                  | / [                                    | <del></del>         |                            |              | ļ           |
| 260         | 1 3.2  | 3.2.          | 7.5'   | 0.5'                          | <u> </u>                              | 6,51                                   | <del></del>         |                            |              |             |
| 270         | <del>                                     </del> | II.           | <del>                                     </del> | Н Н                           | 11                                    | <del> </del>                           |                     | <del> </del>               |              | <u> </u>    |
| 280         | <del>                                     </del> | - 11          | 11   | 11                            | 11                                    | 11                                     |                     |                            |              |             |
| 290         | 11   | II.           | 11   | 11                            | 11                                    | it.                                    |                     |                            |              |             |
| 300         | 11   | 11            | 11   | 11                            | 11                                    | 11                                     |                     |                            | <del> </del> |             |
| 310         | 11   | 11            | 11   | 11                            | 11                                    | 11                                     |                     | <del> </del>               |              |             |
| 320         | †I   | If            | li .   | 11                            | 11                                    | 11                                     |                     | <del></del>                |              |             |
| 330         | II II  | н             | 11   | 11                            | 11                                    | 11                                     |                     |                            |              |             |
| 340         | 11   | н             | 11   | 11                            | lt .                                  | 11                                     | 1.                  |                            |              | <del></del> |
| 350         | It .   | 11            | - 11   | 11                            | 11                                    | 11                                     |                     |                            |              |             |
| 360         | - 11   | 11            | и  | 11                            | !1                                    | 1)                                     |                     |                            |              |             |
| 370         | 11   | ti            | l†   | 11                            | 11                                    | lt.                                    |                     |                            |              |             |
| 380         | 11   | (1            | J <b>t</b>                                       | 11                            | t†                                    | 11                                     |                     |                            |              |             |
| 390         | - 11   | 11            | 11   | H                             | 11                                    | II.                                    |                     |                            |              |             |
| 400         | 11   | 11            | 1t   | 11                            | 11                                    | 11                                     |                     |                            |              |             |
| 410         | "  | !!            | "  | 11                            | 11                                    | 11                                     |                     |                            |              |             |
| 420         | "  | #             | 11   | 11                            | 11                                    | 7.01                                   |                     |                            |              | ····        |
| 430         | ļ  |               |  |                               |                                       |  | _                   |                            |              |             |
| 440         |  |               |  |                               |                                       |  | <del></del>         |                            |              |             |
| 450<br>460  |  |               |  |                               |                                       | 1                                      |                     | ļ                          |              |             |
| 470         |  |               | <u></u>  |                               | · · · · · · · · · · · · · · · · · · · |  |                     | <del></del>                |              |             |
| 480         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 490         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 500         |  |               |  |                               |                                       | <u> </u>                               |                     |                            |              |             |
| 510         |  |               |  |                               |                                       |  |                     | ,                          |              |             |
| 520         |  |               |  |                               |                                       | <u></u>                                | <b>†</b>            |                            |              | <del></del> |
| 530         |  |               |  |                               |                                       | ······································ | <del></del>         |                            |              | <del></del> |
| 540         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 550         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 560         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 570         |  |               |  |                               |                                       |  |                     |                            | ·            |             |
| 580         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 590         |  |               |  |                               |                                       |  |                     |                            |              |             |
| 600         |  |               |  |                               |                                       |  |                     |                            |              |             |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3½ feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT POWER CONDUCTOR

No. 8A Copperweld TELEPHONE CONDUCTOR

| 102 80C       | onderies e  | ON NEA CLC   |            |                               |                 |                | Medium       |                   | TELEPHONE CONDUCTOR |                   |  |  |
|---------------|-------------|--------------|------------|-------------------------------|-----------------|----------------|--------------|-------------------|---------------------|-------------------|--|--|
| sparati       | one spean   | re between n | outral and | e columa "Sec<br>telephone co | aductors.       | ^11            |              |                   | .102 E              | HS 30% C          | opperweld  |  |
|               | M           | INIHUM SE    | PARATION   | AT POLE                       | ETWEEN P        | OMEN           | REUT         | RAL AND           | TELEPHONE           | COMDUCTO          | ors (Feet  |  |
| SPAN<br>ENGTH | 702 . Kn    | LING SPAN    | 1500 RU    | LING SPAN                     | 590 RULING SPAN |                |              | RUI               | LING SPAN           |                   | LING SPAN  |  |
| FT.           | <del></del> | OWER COMD.   | LOWER P    | OWER COND.                    | LOWER POWER     |                | MD.          | LOWER PO          | WER COND.           | LOWER POWER COND. |  |  |
|               | NEUTRAL     | SECORDARY    | HEUTRAL    | BECONDARY                     | MEUTRAL         | SECON          | YRAD         | MEUTRAL           | SECONDARY           | NEUTRAL           | SECONDARY  |  |
| 200           |             |              |            | <u> </u>                      |                 | <u> </u>       |              |                   |                     |                   |  |  |
| 210           |             |              |            |                               |                 |                |              |                   |                     |                   |  |  |
| 220           |             |              |            |                               | <u> </u>        | <del> </del>   |              |                   |                     |                   |  |  |
| 230           | <del></del> |              |            | <u> </u>                      | ļ               |                |              |                   | <u> </u>            |                   |  |  |
| 240           |             |              |            |                               |                 |                |              |                   |                     |                   |  |  |
| 250           | 3.5!        | 6.5!         | 3.51       | 6.51                          | 3.51            | 1 6            | .51          |                   |                     |                   |  |  |
| 260           |             | 11           | 11         | 11                            | 11              |                | 11           |                   |                     |                   |  |  |
| 270           | - 11        | i!           | - 11       | 11                            | 11              | ļ              | 11           |                   |                     |                   |  |  |
| 280           | 11          | if           | !!         | 11                            | lt .            | <u> </u>       | lę           | <u> </u>          |                     | ļ                 |  |  |
| 290           |             | 11           | 11         | ll ll                         | 11              |                | !!           |                   |                     |                   |  |  |
| 300           | 11          | 11           | 11         | lt .                          | .11             | <del></del>    | i t          |                   |                     |                   |  |  |
| 310           | - 11        | 11           | lt .       | 11                            | 11              | <del> </del>   | 11           |                   |                     |                   |  |  |
| 320<br>330    | <u> </u>    | - 11         | 11         | ll II                         | п               | <del> </del>   | 1            |                   |                     | ļ                 |  |  |
|               |             |              | - 11       | - 11                          | 11              | <del> </del>   |              |                   |                     | <u> </u>          |  |  |
| 340<br>350    | 11          | <u> </u>     | lf         | 11                            | 11              | · <del> </del> | 1            |                   | ļ                   |                   |  |  |
| 360           | it<br>it    | 11           | 11         | . 11                          | - 11            | <del> </del>   | !            |                   |                     |                   |  |  |
| 370           | 11          | 11           |            | 11                            | - 11            | +              |              | i<br><del> </del> | ļ <u>.</u>          |                   |  |  |
| 380           |             |              | <u> </u>   | 11                            |                 | <del></del>    | !            |                   | <del> </del>        |                   |  |  |
| 390           | 11          | !'           |            | 11                            | 11              | <del> </del>   | 1            |                   |                     | <u> </u>          | <del></del>                                      |  |
| 400           | 11          | 11           |            | 11                            | 11              | <del> </del>   | †            |                   | <u> </u>            |                   | <b></b>  |  |
| 410           | <u></u>     | 11           | 11         | 11                            | !!              | <del> </del>   | <del>'</del> |                   | <u> </u>            |                   |  |  |
| 120           | 11          |              | 13         | 11                            | 11              | ļ              |              |                   |                     |                   | <del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del> |  |
| 430           | <u> </u>    | 17           | 11         | 11                            | 71              |                | 0'           | <u> </u>          |                     |                   |  |  |
| 440           | 11          |              | 11         | 7.01                          |                 | <del>'</del>   |              |                   |                     |                   | ,  |  |
| 50            | 11          | 7.01         | 19         | / <u>a</u> U*                 | !!              |                |              |                   |                     |                   | <del></del>                                      |  |
| 60            |             | 7,0          | 11         | 11                            | - II            |                | 51           |                   |                     |                   | ***************************************          |  |
| ŀ70           | 11          | 11           | 11         | 7.51                          | - 11            |                | 01           |                   |                     |                   |  |  |
| 80            | ıt l        | 7.51         | n          | 11                            | 11              | 91             |              |                   |                     |                   |  |  |
| 190           | 11          | 11           | 11         | 11                            | 11              | 1              |              |                   |                     |                   | <del></del>                                      |  |
| 00            | 11          | 11           | 11         | 8.01                          | 11              |                | 51           |                   |                     |                   | <del></del>                                      |  |
| 1.0           | 11          | 8.01         | 11         | 11                            | 11              |                |              |                   |                     |                   | <del></del>                                      |  |
| 20            | 11          | 11           | 11         | 11                            | 11              | 9              | 01           |                   |                     |                   | ····   |  |
| 30            | P)          | 11           | 11         | 8.51                          | 11              |                |              |                   |                     |                   |  |  |
| 40            | ef          | 8,51         | II         | tt.                           | Ħ               | 11             |              |                   |                     |                   |  |  |
| 50            | 11          | 7(           | 11         | 9.01                          | it .            | 9.             | 51           |                   |                     |                   |  |  |
| 60            | 11          | 9.01         | 13         | H                             | 11              | 11             |              |                   |                     |                   |  |  |
| 70            | II .        | Ħ            | <b>11</b>  | 11                            | Ħ               | 10.            | 01           |                   |                     |                   |  |  |
| 80            | 11          | 11           | 11         | 9.51                          | 11              | 11             |              |                   |                     |                   | <del></del>                                      |  |
| 90            | . 11        | 9.51         | (1         | 11                            | 4.01            | 10.            | 51           |                   |                     |                   |  |  |
| 00            |             |              |            |                               |                 |                | T            |                   |                     |                   | •  |  |

MOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

<sup>1. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

CADING UISTRICT

LOADING DISTRICT POWER CONDUCTOR

No. 8A Copperweld

Medium 7

TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All specations shows are between neutral and telephone conductors .109 Grade 135 Steel MINIMUM SEPARATION AT POLE BETWEEN POWER NEUTRAL AND PELEPHONE CONDUCTORS (Fact) 465 RULING SPAN 500 TRULING SPAN 590 RULING SPAN SPAN RULING SPAN RULING SPAN LENGTH LOWER POWER COND. LOWER POWER COMD. FT. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. SECOMBARY HEUTRAL SECONDARY NEUTRAL HEUTRAL SECONDARY SECONDARY NEUTRAL 200 210 220 230 240 6.51 250 3.5! 3.51 6.51 6.51 3.51 260 tE 22 11 Ħ 270 Jŧ 11 íł ıŧ 11 280 11 11 11 11 " 11 290 11 12 tt 10 H H 700 18 11 11 11 11 11 310 11 ī 11 11 11 11 11 11 11 11 320 11 11 330 12 Ħ IÈ 11 11 Ħ 340 11 11 If n 11 28 350 11 11 11 Ħ 11 18 360 It 11 11 18 11 IF 370 11 18 ıŧ 12 18 H 380 11 11 tŧ 11 11 10 390 17 п 11 Ħ 11 Ħ 400 Ħ Ħ 11 11 Ħ 11 410 11 Ħ H 11 11 19 420 11 11 #1 Ħ Ħ 7.01 430 H 11 Ħ 17 Ħ 11 440 11 11 !! 11 11 7-01 450 16 # Ħ 7.01 11 7.51 460 11 11 11 11 11 #1 470 11 11 18 7.51 11 8.01 480 11 7.51 11 11 Ħ Ħ 490 11 # Ħ IT 11 Ħ 12 500 . 11 11 8.01 8.51 510 11 1) 8.01 11 4.01 11 520 II 11 18 11 9.01 11 530 11 11 8.51 П 540 H 8.51 11 11 11 11 550 11 11 11 # 9.01 9.51 560 12 Ħ 9.01 Ħ 570 10 11 11 н 11 10.01 580 Ħ - 11 11 9.51 4:51 , tt 590 9.51 10.51

NOTES: The data shown in this table reflect the following basic minimum requirements:

600

 <sup>40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

| VERTICAL | SEPARATION | TABLES FOR  | TELEPHONE | UNDERBUILD |
|----------|------------|-------------|-----------|------------|
|          | ON REA     | ELECTRIC PO | LE LINES  |            |

LOADING DISTRICT

POWER COMPUCTOR

No. 8A Copperweld TELEPHONE CONDUCTOR "

| ecti     | - CO BILONG | re present or<br>are between | pantion and | se column "Se   |                     | All J  | dium                                   | TELEPHONE CO | NOTOUGHO   | ) C4 2                                |  |
|----------|-------------|------------------------------|-------------|-----------------|---------------------|--|--|--------------|--|---------------------------------------|--|
|          | H           | INIMUM SE                    | PARATION    | AT POLE         | BETVEEN             | POWER MENT                                       | AHA IAG                                | TELEBUARE    | .109 Grade 190 Steel                             |                                       |  |
| AN<br>TH | 465 IRU     | LING SPAN                    | 500 I RU    | LING SPAN       | 5901RL              | LING SPAN  | RUI                                    | LING SPAN    | RULING SPA                                       |                                       |  |
| 1        |             | POWER COMD.                  |             | OWER COND.      |                     | OWER COND.                                       | <del> </del>                           | OWER COND.   | LOWER POWER COND.                                |                                       |  |
|          | MEUTRAL     | SECORDARY                    | NEUTRAL     | SECONDARY       | NEUTRAL             | SECONDARY  | MEUTRAL                                | SECONDARY    | 1  |                                       |  |
|          |             |                              |             |                 | 7,000.00            | - SECONDARY                                      | ) HEUTHAL                              | SECONOARY    | HEUTRAL  | SECONDARY                             |  |
|          |             |                              |             |                 | <u> </u>            |  | <del> </del>                           | <del> </del> | <del>                                     </del> | <del> </del>                          |  |
|          |             |                              |             |                 | 1                   |  | <del> </del>                           | <u> </u>     |  | -                                     |  |
|          |             |                              |             |                 |                     |  | ļ                                      | <del> </del> | <del> </del>                                     | <del> </del>                          |  |
|          |             |                              | T           |                 | <del> </del>        |  |  | <del> </del> |  | <del> </del>                          |  |
| T        | 3.51        | 6.51                         | 3.51        | 6.51            | 3.51                | 4 61   |  | <del> </del> |  | <u> </u>                              |  |
|          |             | II                           | 11          | 11              | 11                  | 6.51   |  |              | ····   | <del> </del>                          |  |
|          | !           | 11                           | 11          | 11              | 11                  | <del>                                     </del> |  |              | <del></del>                                      | <del> </del>                          |  |
|          | []          | 11                           | 11          | 1 11            | 11                  | <del></del>                                      |  |              |  |                                       |  |
|          | 11          | 11                           | :1          | JI              |                     | 1:   |  |              |  | ļ                                     |  |
|          | 11          | 17                           | 11          | 11              | 11                  | 11   |  |              |  |                                       |  |
|          | 11          | I!                           | 11          | 11              | 11                  | 11 11  | ······································ |              |  | <u> </u>                              |  |
|          | !!          | 11                           | 11          | 11              | 12                  |  |  |              |  |                                       |  |
|          | 11          | 11                           | 11          | 11              | 11                  | 11   |  | ļ ļ          |  |                                       |  |
|          | 11          | 11 .                         | 11          | 11              | <u>''</u>           | it   |  |              |  |                                       |  |
|          | 11          | 11                           | 17          |                 | 11                  | 11   |  |              |  |                                       |  |
| 7        | II I        | 13                           | 1]          |                 | "                   | . !!   |  |              |  |                                       |  |
|          | 11          | l†                           | ll          | , II            |                     |  |  |              |  |                                       |  |
| T        | 11          | 11                           | 11          | 11              |                     | !!   |  |              |  |                                       |  |
| $\top$   | li l        | 11                           | 71          | 11              |                     | 11   |  | <u> </u>     |  |                                       |  |
| $\top$   | u I         | н                            | 11          | 11              | 4.01                | ļ <u>-</u>                                       |  |              |  |                                       |  |
| T        | !!          | 11                           | 11          | 11              | <u></u>             | - 11   |  | <b></b>  .   |  |                                       |  |
|          | 11          | . 11                         | 11          | 11              | 11                  |  |  |              |  |                                       |  |
|          | 11          | 11                           | 11          | <u>-</u>        |                     | 7.01   |  |              |  |                                       |  |
| T        | 11          | н                            | 11          | 7.01            | 11                  | 11   |  |              |  |                                       |  |
| 7        | 11          | 7.01                         | 11          | 11              | 11                  |  |  |              |  |                                       |  |
| Т        | 11          | 11                           | 4.01        |                 | 11                  | 7.51   |  |              |  |                                       |  |
| 7        | 11          | 11                           | 1)          | 7.5             | 11                  |  |  |              |  |                                       |  |
|          | 71          | 7.51                         | ft.         | <del>/_2'</del> | 4.5!                | 8.01   |  |              |  |                                       |  |
|          | 11          | 11                           | (1          | 11              | 4.5                 |  |  |              |  |                                       |  |
|          | 1)          | 17                           | II II       | 8-01            | - ;;                | 0.51   |  |              |  | ····                                  |  |
|          | 11          | 10.8                         | t i         | n n             | 11                  | 8.51   |  |              |  |                                       |  |
|          | 4.01        | 11                           | 11          | li l            | 11                  |  |  |              |  |                                       |  |
|          | 11          | 11                           |             | 8.51            | "                   | 9.01   |  |              |  |                                       |  |
| $L_{-}$  | 11          | 8.51                         | 11          | 11              | 11                  | 11.  | <del></del> -                          |              |  | ·                                     |  |
|          | -11         | 11                           | 11          | 9.01            | 5.01                | 9.51   |  |              |  |                                       |  |
| <u>L</u> | 11          | 9.01                         | lf .        | li li           | 11                  | 9.51   |  |              |  | · · · · · · · · · · · · · · · · · · · |  |
|          | 11          | 11                           | 4.51        | 11              | 11                  |  |  |              |  |                                       |  |
| L        | 11 .        | 11                           | 11          | 9.51            | 15                  | 10.01  |  |              |  | · .                                   |  |
| <u></u>  | - 11        | 9.51                         | 11          | 11              | <del>- ii -  </del> | 10.51  |  |              |  |                                       |  |
| 1        |             | -                            |             |                 |                     |  | 1                                      | ſ            | - 1  | 1 1 1                                 |  |

<sup>:</sup> The data shown in this table reflect the following basic minimum requirements: -inch minimum separation at pole between neutral or secondary and highest telephone nductor. (These tables do not include any consideration of minimum separation reirements when power equipment is mounted on pole below the neutral).

<sup>-</sup>inch minimum midspan separation between highest telephone conductor and neutral or

se of sight rule when secondaries up to 750 volts are involved.

separations are based on REA pale head configurations with neutral 3½ feet below le top and phase wires occupying a position at top of pole and lowest secondary 3

LOADING DISTRICT

POWER CONDUCTOR

Light

No. 4 7/1 ACSR

When secondaries are present or planned, use column "Secondary". Al separations shown are between neutral and telephone conductors.

.080 40% HS Copperweld

| separati | one shown                               | re between n                            | eutral and  | telephone co                       | <u> </u>   | 1 080 40% HS Copperweld  VER NEUTRAL AND TELEPHONE CONDUCTORS (Feet.) |              |             |             |  |
|----------|---|---|---|------------------------------------|--|---|--------------|-------------|-------------|--|
| SPAN     | 10512                                   | ININUM SEI                              | PARAYION  | AT POLE B                          | ETACEN P   | OWER NEUT   |              |             |             |  |
| LENGTH   | Andrews                                 |   | <del>                                     </del>  | 6501 RULING SPAN LOWER POWER COND. |  | ING SPAN  |              | ING SPAN    | RULING SPAN |  |
| FT.      |   | OWER COMD.                              |   | T                                  |  | WER COND.   |              | WER COND.   |             | WER COND   |
|          | HEUTRAL                                 | SECONDARY                               | NEUTRAL   | BECONDARY                          | MEUTRAL  | SECONDARY   | HEUTRAL      | SECONDARY   | JARTUBK     | SECONDARY  |
| 200      |   |   | ļ   |                                    |  | <del> </del>  |              | <del></del> |             | The second secon |
| 210      |   |   |   | <b></b>                            |  |   |              | <u> </u>    |             |  |
| 220      | ļ                                       |   |   |                                    |  | <u> </u>  |              | <u></u>     |             | -ARTHURAN AND AND AND AND AND AND AND AND AND A  |
| 230      | ļ                                       | ļ                                       |   |                                    |  |   |              | ļ           |             |  |
| 240      | *************************************** |   |   |                                    | A  | ļ   |              |             |             | A Makagamatan (1886-1825) (And Angalan)  |
| 250      |   |   |   |                                    | CONTRACTOR DE SENSOR DE LA CONTRACTOR DE |   |              |             |             |  |
| 260      |   |   |   |                                    |  |   |              |             |             |  |
| 270      |   |   |   |                                    |  |   |              |             |             |  |
| 280      |   |   |   |                                    |  |   |              |             |             |  |
| 290      |   |   |   |                                    | ,  |   |              |             |             |  |
| 300      | 3,51                                    | 6.51                                    | 3.51  | 6.51                               |  | l   |              |             |             | [  |
| 310      | Ħ                                       | It                                      | 11  | 11                                 |  |   |              |             |             |  |
| 320      | 18                                      | 11                                      | l1  | 18                                 |  |   |              |             |             |  |
| 330      | II.                                     | Ħ                                       | it  | 11                                 |  | ·   |              |             |             |  |
| 340      | И                                       | ) II                                    | n   | 14                                 |  |   |              |             |             |  |
| 350      | H                                       | 11                                      | н   | n                                  |  |   |              |             |             |  |
| 360      | IÎ                                      | 11                                      | 11  | †1                                 | <del></del>  |   | <del></del>  |             |             | 1.   |
| 370      | 11                                      | н                                       | 11  | 11                                 | <u> </u>   |   |              |             |             |  |
| 380      | 11.                                     | !1                                      | 11  | tl .                               |  |   |              |             |             |  |
| 390      | !!                                      | 11                                      | 11  | н                                  |  |   |              |             |             |  |
| 400      | !1                                      | t.                                      | 11  | 11                                 |  |   |              |             |             |  |
| 410      | 11                                      | 16                                      | 11  | 17                                 |  |   |              |             |             | -  |
| 420      | 11                                      | 18                                      | 11  | 11                                 |  |   |              |             |             |  |
| 430      | 10                                      | 10                                      | 11  | 18                                 |  |   | <del> </del> |             |             | · · · · · · · · · · · · · · · · · · ·  |
| 440      | )†                                      | n                                       | 11  | 18                                 |  |   |              |             |             | <del>100</del>   |
| 450      | 11                                      | 7.01                                    | 11  | 11                                 |  |   |              |             |             | ***  |
| 460      | ll .                                    | II.                                     | 11  | 7.01                               |  |   |              |             |             | AND PROPERTY OF STREET STREET,   |
| 470      | (1)                                     | 1f                                      | 11  | 11                                 |  | <u> </u>  |              | <u> </u>    |             | <del> </del>   |
| 480      | ll .                                    | t <del>)</del>                          | 11  | 11                                 | <u> </u>   |   | <b></b>      |             |             | <del></del>  |
| 490      | l t                                     | 7.51                                    | 11  | 7.51                               |  | <u> </u>  |              |             |             |  |
| 500      | 11                                      | 11                                      | !!  | 11                                 |  |   |              |             |             |  |
| 510      |   |   |   |                                    |  |   |              |             |             |  |
| 520      |   |   |   |                                    |  |   |              |             |             |  |
| 530      |   |   |   |                                    |  |   |              |             |             |  |
| 540      |   |   |   |                                    |  |   |              |             |             |  |
| 550      |   |   |   |                                    | ····   |   | <u> </u>     |             |             |  |
| 560      | ***                                     |   |   |                                    |  |   |              |             |             |  |
| 570      |   |   |   |                                    |  |   | T            |             |             |  |
| 580      |   | *************************************** |   |                                    |  |   |              |             |             |  |
| 590      |   |   |   |                                    |  |   |              |             |             |  |
| 600      |   |   | <del>, , , , , , , , , , , , , , , , , , , </del> |                                    | ***************************************  |   |              |             |             |  |
|          |   |   |   |                                    |  |   |              |             |             |  |

時OTES: The data shown in this table reflect the following basic minimum requirements:

- 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).
- 2. 30-inch minimum midspan separation between highest telephone conductor and neutral or secondaries.
- J. Line of sight rule when secondaries up to 750 volts are involved.
- 4. All separations are based on REA pole head configurations with ne pole top and phase wires occupying a position at top of pole and feet below neutral.

RD\_Fig.

LOADING DISTRICT

POWER CONDUCTOR

No. 4 7/1 ACSR TELEPHONE CONDUCTOR

| 10B R0     | conderios   | UN REA CLE    | - ( - )      |                | ondary".          | Light                                 |               | TELEPHONE CONDUCTOR |   |  |  |  |
|------------|-------------|---------------|--------------|----------------|-------------------|---------------------------------------|---------------|---------------------|---|--|--|--|
| eparat     | AND BITONU  | OLA BALAGON D | enttat and   | leiaphona ca   |                   |                                       | 100 min and - |                     |   |  |  |  |
| SPAN       |             | AINIMUM SE    | PARATION     | AT POLE        | ETYEEN P          | OMER                                  | HEUP          | RAL AND             | TELEPHONE CONDUCTORS (Feet              |  |  |  |
| LENGTH     |             |               | <del> </del> |                | RU                | RULING SPAN                           |               |                     | LING SPAN                               | RU   | RULING SPA                             |  |
| FT.        |             | POWER COMO.   | LOWER        | OWER COND.     | LOWER P           | OWER C                                | OND.          | LOWER P             | OWER COND.                              |  |  |  |
| 000        | MEUTRAL     | SECONDARY     | HEUTRAL      | SECONDARY      | HEUTRAL SECONDARY |                                       | HEUTRAL       | SECONDARY           | LOWER POWER COND.                       |  |  |  |
| 200        | <del></del> | <u> </u>      | ļ            |                |                   |                                       |               |                     |   | NEU1 KAL   | SECONDAR                               |  |
| 210        |             | ļ             |              |                |                   |                                       |               |                     |   |  | <del> </del>                           |  |
| 220        | ·           | <u> </u>      |              |                |                   |                                       |               |                     |   | <del> </del>                                     |  |  |
| 230        |             |               |              |                | <u> </u>          |                                       |               |                     |   | T  |  |  |
| 240        |             | <del>- </del> |              |                |                   |                                       |               |                     | 1                                       | <del> </del> -                                   | <u> </u>                               |  |
| 250        |             |               | <del></del>  |                |                   |                                       |               | <u> </u>            |   |  |  |  |
| 260        | ·—··        | ļ             |              |                |                   |                                       | *********     |                     | ·                                       |  |  |  |
| 270        | <del></del> | <u> </u>      |              |                |                   |                                       |               | <del></del>         |   |  |  |  |
| 280        |             |               |              | ļ              |                   |                                       |               |                     |   |  |  |  |
| 290<br>300 |             |               |              |                |                   |                                       |               |                     |   | <del> </del>                                     |  |  |
| 310        | 3,51        | 6.51          | 3,51         | 6.51           |                   |                                       |               |                     | - <del> </del>                          | <del>                                     </del> | ·                                      |  |
| 320        |             | "             |              | <u> </u>       |                   |                                       |               |                     |   |  |  |  |
| 330        | <u>''</u>   | 11            | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 340        | 11          | 11            |              | 71             |                   |                                       |               |                     |   |  | ·····                                  |  |
| 350        | !!          | 11            | 11           | [1             |                   |                                       |               |                     |   |  |  |  |
| 360        | 11          |               | <u> </u>     | 11             |                   |                                       |               |                     |   |  |  |  |
| 370        | 11          | 11            | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 380        | 11          | 11            | !!           | 11             |                   |                                       |               |                     |   |  |  |  |
| 390        |             | 71            |              | <del>''</del>  |                   |                                       |               |                     |   |  |  |  |
| 400        | 11          | 11            | 11           | "              |                   |                                       |               |                     |   |  |  |  |
| 410        | 10          | 10            | 11           | <del>- "</del> |                   |                                       |               |                     | *************************************** |  |  |  |
| 420        | 11          | 11            | 11           | . "            |                   | · · · · · · · · · · · · · · · · · · · |               |                     |   | <u> </u>   |  |  |
| 430        | 11          | 18            | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 440        | lt .        | 18            | 11           | <del>- "</del> |                   |                                       |               |                     |   |  |  |  |
| 450        | 11          | 7.01          | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 460        | 11          | 11            | 11           | 7.01           |                   |                                       |               |                     |   |  |  |  |
| 170        | 11          | n             | 11           | 110            |                   |                                       |               |                     |   |  |  |  |
| 180        | 11          | 78            | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 190        | 11          | 7.51          | ††           | 7.51           |                   |                                       |               |                     |   |  |  |  |
| 00         | 18          | 11            | 18           | !!             |                   |                                       |               |                     |   | <del></del>                                      |  |  |
| 10         | II.         | 8.01          | 11           | 11             |                   |                                       |               | <del></del>         |   |  | -                                      |  |
| 20         | lt          | 18            | 11           | 8.01           |                   |                                       |               |                     |   | ····   |  |  |
| 30         | 11          | . ##          | lt .         | 11             | -                 |                                       |               |                     |   |  |  |  |
| 40         | ti .        | 8.51          | 11           | 11             |                   |                                       |               |                     |   |  | <del></del>                            |  |
| 50         | 78          | 11            | 11           | 8.51           |                   | <del></del>                           |               |                     |   |  | <del></del>                            |  |
| бо         | 11          | 9.01          | 11           | 11             |                   |                                       |               |                     |   |  |  |  |
| 70         | 11          | 11            | 11           | 9.01           |                   | ····                                  |               |                     |   |  |  |  |
| 80         | 11          | 11            | 11           | 11             |                   |                                       |               |                     | <del> </del>                            |  |  |  |
| 90         | 19          | 9.51          | 11           | . 11           |                   |                                       |               |                     | <del></del>                             |  | ······································ |  |
| 00         | 11          | - 11          | 11           | 10.0'          |                   | ·                                     |               |                     |   |  |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-Inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

2. 30-inch minimum midspan separation between highest telephone conductor and neutral or

. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICY

POWER CONDUCTOR

Light

No. 4 7/1 ACSR

TELEPHONE CONDUCTOR

"sen secondaries are present or planned, use column "Secondary".

parations shows are between neutral and telephone conductors.

.109 Grade 135 Steel

| a communication | 1  | are between ne | PAPATION | TELEBUARS  | rade 135   | DUGGT  |  |  |  |   |  |
|-----------------|--|----------------|----------|--|--|--|--|--|--|---|--|
| PSU(2114        | 4951 RU  | LING SPAN      | 1650'RV  | LING SPAN  | RU RU  | LING SPAN  | RAL AND  | TELEPHONE<br>Ling Span                           | COMPUCTO<br>RU                                   | CONDUCTORS (Fee                         |  |
| Length<br>Ft.   | ***************************************  | POWER COND.    |          | POWER COND.  |  | OWER COND.                                       |  | OWER COND.                                       |  | OWER CON                                |  |
| 220<br>230      | HEUTHAL  | SECONGARY      | HEUTRAL  | SECONDARY.   | HEUTRAL  | SECOHOARY  | HEUTRAL  | SECONDARY  | NEUTRAL  | SECONDA                                 |  |
|                 |  |                |          |  |  |  |  |  | -  | 1                                       |  |
|                 | A Control of the Cont |                |          |  |  |  |  |  | -  | <del> </del>                            |  |
|                 |  |                |          |  |  |  |  | <del> </del>                                     | <del></del>                                      | 1                                       |  |
| 230             | The same of the sa |                |          |  |  |  |  |  |  | -                                       |  |
| 240             |  |                |          |  |  | ,  |  |  | <del> </del>                                     |   |  |
| 250             |  |                |          |  |  | )  |  |  |  |   |  |
| 260             | The second second  | · ·            |          |  |  |  |  |  | <del> </del>                                     | Market Market Company                   |  |
| 270             |  | - '            |          |  |  |  |  |  | <del> </del>                                     | *************************************** |  |
| 280             | <u> </u>   | ,              |          |  |  | ,  |  |  |  | -                                       |  |
| 290             |  |                |          | , ,  |  | ,  |  |  | <del>                                     </del> | 1                                       |  |
| 300             | 3,51   | 6.51           | 3,51     | 6.51   |  | ,  |  |  |  | -                                       |  |
| 310             | 11   | 11             | 11       | 11   |  | ,  |  |  | 1  |   |  |
| 320             | 11   | 11             | 11       | 11   |  | ,  | , , , , , , , , , , , , , , , , , , ,            | ·  |  |   |  |
| 330             | 11   | 11             | lt.      | 11   |  |  | ,  | · ·  | ,  |   |  |
| 340             | <b>}1</b>  | 11             | 11       | 11   |  |  | ·  |  | · ·  |   |  |
| 350             | 10   | If             | 11       | 18   |  |  | <u> </u>   | /  | ,  |   |  |
| 360             | 11   |                | 1 f      | 18   |  |  |  |  |  |   |  |
| 370             | !!   | 11             | 11       | !t   |  |  |  |  |  |   |  |
| 380             | 11   | 11             | 11       | lt .   | <b></b> '  |  |  |  |  |   |  |
| 390             | 11   | H              | 11       | 11   | <u></u> '  | '  |  |  | <u></u>  | <u> </u>                                |  |
| 400             | 19   | 11             | It       | lt   | <u> </u>   | <u> </u>   |  |  | '  |   |  |
| 410             | 17   | 11             | 11       | 11   | <b></b> '  | <u> </u>   | <u> </u>   | <u> </u>   | <u></u> '  |   |  |
| 420             | 17   | 11             | 11       | 11   | <b></b> '  | <u> </u>   | 1  | <u> </u>   | <u> </u>   |   |  |
| 430             | 11   | 11             | 11       | 17   | <b></b> '  | <del> </del> '                                   | <del> </del> '                                   | <u> </u>   | <u> </u>   |   |  |
| 440             | 11   | 11 01          | 11       | !!   | <del></del> '  | <u> </u>   | <u> </u>   | <u> </u>   | <b></b> '  |   |  |
| 450<br>460      | 11   | 7.01           | 11       | 11 77 04   | <del>                                     </del>   | <u> </u>   | <u> </u>   | 1  | <b></b> '  |   |  |
| 470             | 1t  <br>  1t   | 11 .           | 11       | 7.01   | <del></del> '  | 4'   | <del> </del> '                                   | 4  | <u> </u>   |   |  |
| 480             | 11   | 77 51          | 11       | 11   | <del></del>  |  | <del> </del> '                                   | <del> </del>                                     |  | <del> </del>                            |  |
| 490             | 11   | 7.51           | 11       | 77 51  | +  | <del></del>                                      | <del> </del>                                     | <del> </del>                                     | <del></del>                                      | <u> </u>                                |  |
| 500             | 11   | 11             | 11       | 7.51   | <del> </del>   | <del></del>                                      | <del> </del>                                     | <del> </del>                                     | <del> </del>                                     | <del> </del>                            |  |
| 510             | 11   | 8.01           | 1 11     | 11   | <del> </del>   | <del> </del>                                     |  | <del> </del>                                     | <del></del>                                      | -                                       |  |
| 520             |  | 8.01           | 11       | ~  | <del> </del>   | <del> </del>                                     | <del> </del>                                     | <del>                                     </del> | <del> </del>                                     | <del></del>                             |  |
| 530             | 11   | 11             | 11       | 8.01   | <del> </del>   | <del></del>                                      | <del> </del>                                     | <del> </del>                                     | <del>  </del>                                    | <del> </del>                            |  |
| 540             | 11   | 8.51           | 11 ,     | , "  |  | <del> </del>                                     | <del></del>                                      |  | <b> </b>   |   |  |
| 550             | 11   | 11             | 11       | 8.51   | <del>                                     </del>   | +  | <del> </del>                                     | <del> </del>                                     | <del>                                     </del> | r                                       |  |
| 560             |  | 1 .            | <u> </u> |  |  | <del>                                     </del> | <del>                                     </del> | r  |  | ĺ                                       |  |
| 570             | ı J  | ,              |          | T  | Γ  |  | <b> </b>   |  |  | 1                                       |  |
| 580             |  | ,              | 1        | <del>                                     </del>   | <del></del>  |  |  | (-   |  |   |  |
| 590             |  | ,              |          |  | <del></del>  | <del>                                     </del> | ( · · · · · · )                                  | (  | <u> </u>   | 1                                       |  |
| 600             |  | ,              | 1        | 1  |  |  |  | 1  |  | , <del></del>                           |  |
|                 |  |                | -        | the same of the sa | · Carrier and Control of the Control | -  |  |  | A  | ATTENNE .                               |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephon conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

. 30-inch minimum midspan separation between highest telephone conductor and neutral

3. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pole head configurations with neutral 3½ feet be pole top and phase wires occupying a position at top of pole and lowest secondary feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6A Copperweld

TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All separations shows are between neutral and telephone conductors.

Light

.080 HS 40% Copperweld

| · - <del></del> | Ħ   | IBIHUH SEI   | HOITARAS                              |  | ETWEEN F                              | OWER HEUT    | RAL AND          | TELEPHONE CONDUCTORS (Fe                         |                           |  |
|-----------------|---|--------------|---------------------------------------|--|---------------------------------------|--------------|------------------|--|---------------------------|--|
| SPAN<br>LENGTH  | A. O. P. P. P. S. | LING SPANS   | <del></del>                           | LING SPAN                              |                                       | LING SPAN    |                  |  |                           | LING SPAN                                      |
| FY,             |   | OWER COMB.   | 1                                     | OWER COND.                             |                                       | OWER COND.   | 7                | WER COND.  |                           | OWER COND.                                     |
| 200             | METTRAL   | SECONDARY    | HEUTRAL                               | SECONDARY                              | HEUTRAL                               | SECONOARY    | NEUTRAL          | SECONDARY  | HEUTRAL                   | SECONDARY                                      |
| 210             |   | <u> </u>     | -                                     | <u> </u>                               | <del> </del>                          | <del> </del> | <u> </u>         |  |                           |  |
| 220             |   | <del> </del> | <del> </del>                          |  | <u> </u>                              | <del></del>  | . <del> </del> - |  | <del></del>               | <del></del>                                    |
| 230             |   | <del> </del> | <del> </del>                          |  | <del> </del>                          | <del></del>  |                  |  | <del> </del>              |  |
| 240             |   |              | <del> </del>                          |  | <del> </del> -                        | +            |                  |  | <del>- </del>             |  |
| 250             |   |              |                                       |  | <del> </del>                          | <del> </del> | <del> </del>     |  |                           |  |
| 260             |   |              | ļ                                     | <del></del>                            |                                       | <u> </u>     | <u> </u>         | <u></u>  | <del> </del>              | -  |
| 270             |   | <del></del>  | <del> </del>                          | <u> </u>                               | <b>}</b>                              | <del> </del> | <del> </del>     |  | <del></del>               |  |
| 280             |   | <u> </u>     | <del> </del>                          |  |                                       | <del></del>  | <u></u>          |  | <del> </del>              |  |
| 290             |   |              |                                       | <u></u>                                |                                       | <del> </del> |                  | <del>                                     </del> | <del> </del>              |  |
| 300             | 2 51  | ( []         | <u> </u>                              |  | <u></u>                               | <del> </del> | <u> </u>         | <del> </del>                                     | <del></del>               |  |
| 310             | 3.51  | 6.51         | <u> </u>                              |  |                                       | <u> </u>     | <del> </del>     | <u> </u>   | <del> </del>              |  |
| 320             | 11  | 11           | ļ                                     |  |                                       | <del> </del> | -                | <u> </u>   | <u> </u>                  |  |
| 330             |   | 11           | <b></b>                               |  | <u></u>                               | <del> </del> |                  |  | <del> </del>              |  |
| 340             | 11  | 11           |                                       |  |                                       |              | <del> </del>     | <u> </u>   | ╁───                      |  |
| 350             | n   | ıt i         |                                       |  | ·                                     |              | <del> </del>     |  | <u> </u>                  |  |
| 360             | 11  |              | <u> </u>                              |  |                                       | ļ            | ļ                |  |                           | ·  |
| 370             | 11  | ti           |                                       |  | <u> </u>                              | <del> </del> | <u> </u>         | <del> </del>                                     | <del> </del>              | <del> </del> -                                 |
| 380             | 11  | 11           |                                       |  | <del></del>                           | <del> </del> |                  |  | <del> </del>              |  |
| 390             | 11  | 11           |                                       |  | · · · · · · · · · · · · · · · · · · · | <del> </del> | <u> </u>         |  |                           |  |
| 400             |   | 11           |                                       |  |                                       | <u> </u>     |                  |  |                           |  |
| 410             | 11  | 11           |                                       |  |                                       | <b></b>      |                  |  | <del> </del>              | <del></del>                                    |
| 420             | 11  | II.          |                                       |  |                                       |              |                  |  | <u> </u>                  |  |
| 430             | 11  | 7.01         |                                       |  |                                       | l            |                  |  |                           |  |
| 440             | 11  | / <u>AV:</u> |                                       |  | <del></del>                           | <u> </u>     |                  |  |                           | ······································         |
| 450             | 11  | 11           |                                       |  |                                       |              |                  |  | <del> </del>              | <del></del>                                    |
| 460             | · · · · · · · · · · · · · · · · · · ·                 |              |                                       | -                                      |                                       |              |                  |  | <del> </del>              | **************************************         |
| 470             |   | <del></del>  |                                       |  |                                       |              |                  |  |                           |  |
| 480             | ······································                |              | *                                     |  |                                       |              |                  |  | <del></del>               |  |
| 490             |   |              |                                       |  |                                       |              |                  |  |                           |  |
| 50Q             |   |              | · · · · · · · · · · · · · · · · · · · |  |                                       |              |                  | ·····  | ļ                         |  |
| 510             |   |              |                                       | ······································ |                                       |              |                  | **************************************           |                           | enistel lennetherne sylfrene var ei consission |
| 520             |   |              |                                       |  |                                       |              |                  | ······································           | <del>**************</del> | ***************************************        |
| 530             |   |              |                                       |  | <del></del>                           |              | *                |  |                           |  |
| 540             |   |              |                                       |  |                                       |              |                  |  |                           | · · · · · · · · · · · · · · · · · · ·          |
| 550             |   |              |                                       |  |                                       |              |                  |  |                           |  |
| 560             |   |              |                                       |  |                                       |              |                  |  |                           | ***************************************        |
| 570             |   |              |                                       |  |                                       |              | ······           |  | ·                         |  |
| 580             |   |              |                                       |  |                                       |              |                  | <del></del>                                      |                           |  |
| 590             |   |              |                                       |  |                                       |              |                  | <del></del>                                      |                           |  |
| 600             |   |              |                                       |  |                                       |              |                  |  |                           |  |

MOTES: The data shown in this table reflect the following basic minimum requirements:

1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

3. Line of sight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or mecondaries.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6A Copperweld

Light TELEPHONE CONDUCTOR

Then secondaries are present or planned, use column "Secondary". All separations shown are between neutral and telephone conductors.

.102 EHS 30% Copperweld

| reparati      |                  | ore between no |             | BAL AUG           | LOZ EHS 30% Copperweld |  |          |  |                                       |  |
|---------------|------------------|----------------|-------------|-------------------|------------------------|--|----------|--|---------------------------------------|--|
| SPAN          | All RULING SPANS |                | RU          | LING SPAN         | RUI                    | LING SPAN                              | RAL AND  | TELEPHONE<br>.ing span                 | RULING SPAN LOWER POWER COND.         |  |
| LENGTH<br>FT. |                  | OWER COND.     | <del></del> | LOWER POWER COND. |                        | OWER COND.                             | ·        | WER COND.                              |                                       |  |
|               | HEUTRAL          | SECONDARY      | NEUTRAL     | SECONDARY         | HEUTRAL                | SECONDARY                              | HEUTRAL  | SECONDARY                              | NEUTRAL                               | SECOHBARY                              |
| 200           |                  |                | <u> </u>    |                   |                        |  |          |  |                                       |  |
| 210           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 220           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 230           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 240           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 250           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 260           |                  |                |             |                   |                        |  |          | ************************************** |                                       | ***                                    |
| 270           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 280           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 290           |                  |                |             |                   |                        |  |          |  |                                       |  |
| 300           | 3,51             | 6,51           |             |                   |                        |  |          |  |                                       |  |
| 310           | 11               | 11             |             |                   |                        |  |          |  |                                       | ************************************** |
| 320           | l†               | 11             |             |                   |                        |  |          |  |                                       |  |
| 330           | 11               | II.            |             |                   |                        |  |          |  | · · · · · · · · · · · · · · · · · · · |  |
| 340           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 350           | 11               | 18             |             |                   |                        |  |          |  | -                                     |  |
| 360           | Ħ                | 17             |             |                   |                        |  |          |  |                                       |  |
| 370           |                  | 11             |             |                   |                        |  |          |  |                                       |  |
| 380           | 11               | 11             |             |                   |                        |  | <u> </u> | <u> </u>                               |                                       |  |
| 390           | - 11             | ff             |             |                   |                        |  |          |  |                                       |  |
| 400           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 410           | 11               | H              |             |                   |                        |  |          |  | :                                     |  |
| 420           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 430           | l1               | 7.01           |             |                   |                        |  |          |  |                                       |  |
| 440           | II I             | II .           |             |                   |                        |  |          |  |                                       |  |
| 450           | 17               | lf .           |             |                   |                        |  |          |  |                                       |  |
| 460           | 11               | 7.51           |             |                   |                        |  |          |  |                                       | ************************************** |
| 470           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 480           | 11               | 8.01           |             |                   |                        |  |          |  |                                       |  |
| 490           | It .             | 11             |             |                   |                        |  |          |  |                                       |  |
| 500           | lt               | 11             |             |                   |                        |  |          |  |                                       |  |
| 510           |                  | 8.51           |             |                   |                        | ************************************** |          |  |                                       |  |
| 520           | tt               | 71             |             |                   |                        |  |          |  |                                       |  |
| 530           | 11               | 9.01           |             |                   |                        |  |          |  |                                       | -                                      |
| 540           | "                | 11             |             |                   |                        |  |          | <u></u>                                |                                       |  |
| 550           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 560           | 11               | 9.51           |             |                   |                        |  |          |  |                                       |  |
| 570           | 11               | 11             |             |                   |                        |  |          |  |                                       |  |
| 580           | 11               | 10.01          |             |                   |                        |  |          |  |                                       |  |
| 590           | . 18             | 11             |             |                   |                        |  |          |  |                                       |  |
| 600           |                  |                |             | Ī                 |                        |  |          | į                                      | *                                     |  |

NOTES: The data shown in this table reflect the following basic minimum requirements:

1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

1. Line of sight rule when secondaries up to 750 volts are involved.

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or secondaries.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6A Copperweld

TELEPHONE CONDUCTOR

| BOC                   | conderies<br>ons shown          | on wex ere        | planned, us<br>outral and               | e column "Sec<br>telephone co           | ondary". /  | All                                     |                      | ight        | TELEPHONE C                                      | rada 13  | 5 Steel  |  |
|-----------------------|---------------------------------|-------------------|---|---|---|---|----------------------|-------------|--|--|--|--|
|                       | L                               | HINIMUM SEF       | HOITARA                                 | AT POLE 9                               | ETWEEN POWER NEUTRAL AND  |   |                      |             | .109 Grade 135 Steel TELEPHONE CONDUCTORS (Feet) |  |  |  |
| SPAN<br>LENGTH        |                                 | THE STATE OF MIND | RUI                                     | RULING SPAN                             |   | RULING SPAN                             |                      |             | ING SPAN   |  | ULING SPAN   |  |
| FT.                   | LOWER                           | POWER COMD.       | LOWER POWER COND.                       |   | LOWER POWER COND.   |   |                      |             | WER COND.  |  | OWER COND.   |  |
| CALLENSING OF SURVAIN | HEUTRAL                         | SECOMDARY         | HEUTRAL                                 | SECONDARY                               | HEUTRAL   | SECON                                   |                      | HEUTRAL     | SECONDARY  | HEUTRAL  | SECONDARY  |  |
| 200                   |                                 |                   |   |   |   |   |                      |             |  | HEUTHAL  | SECONDANY  |  |
| 210                   |                                 |                   |   |   |   |   | -Ar-Mai Izinpepahaha |             | <u> </u>   | -  |  |  |
| 220                   |                                 |                   |   |   |   |   |                      |             |  |  | This was the same of the same  |  |
| 230                   |                                 |                   | +                                       |   |   | ]                                       |                      |             | <u> </u>   | <del></del>                                      |  |  |
| 240                   |                                 |                   |   |   |   | 1                                       |                      |             | <b></b>  | <del> </del>                                     |  |  |
| 250                   | inima international and an      |                   |   |   | *************   | ,                                       |                      |             | <del> </del>                                     | ···  |  |  |
| 260                   |                                 |                   | The second second second                |   |   | * ************************************  |                      |             |  |  | CONTRACTOR DESCRIPTION OF STREET   |  |
| 270                   |                                 |                   |   |   | Y# 14 may 1 may 2 | <del> </del> -                          |                      |             |  | <del> </del>                                     | ***************************************  |  |
| 280                   | ******************************* |                   |   |   |   |   |                      |             |  |  |  |  |
| 290                   |                                 |                   |   | *************************************** |   | <u> </u>                                |                      |             | <del> </del>                                     | <del> </del>                                     |  |  |
| 300                   | 3.51                            | 6,51              |   |   | ***************************************   |   |                      |             |  | <del></del>                                      | <del></del>  |  |
| 310                   | If.                             | 11                | *************************************** |   | 1000 P.2000 . (Alle Entre 40) UNIVERSAL   |   |                      |             |  | -  | THE RESERVE AND PERSONS ASSESSED.  |  |
| 320                   | - 11                            | 11                |   |   |   |   |                      |             |  | <del>                                     </del> | -  |  |
| 330                   | 1)                              | 11                |   |   |   |   |                      |             |  | <del></del>                                      |  |  |
| 340                   | 11                              | (1                |   |   |   |   |                      |             |  |  | -  |  |
| 350                   | H                               | 11                |   |   |   |   |                      |             |  |  |  |  |
| 360                   | Ħ                               | 1)                |   |   |   | *************************************** |                      |             |  |  | 1  |  |
| 370                   | 11                              | H                 |   |   |   |   |                      |             |  | <del> </del>                                     |  |  |
| 380                   | !!                              | 11                |   |   |   | *************************************** |                      |             |  |  |  |  |
| 390                   | 11                              | Ŋ                 |   |   |   |   |                      |             |  |  | <del> </del>   |  |
| ٦.                    | 11                              | 11                |   |   |   | <del></del>                             |                      |             | ······································           | <del> </del>                                     |  |  |
|                       | - 11                            | H                 |   |   |   |   |                      |             |  | · · · · · · · · · · · · · · · · · · ·            |  |  |
| الاستان               |                                 | 11                |   |   |   |   |                      |             |  | <u> </u>   |  |  |
| 430                   | 11                              | 7.01              |   |   |   |   |                      |             |  |  |  |  |
| 440                   | lt I                            | If .              |   |   |   | ·                                       |                      |             |  | <u></u>  |  |  |
| 450                   | 11                              | 18                |   |   |   | <del></del>                             |                      |             |  |  |  |  |
| 460                   | 1!                              | 7.51              | ·                                       |   |   | ·······                                 |                      |             |  | l<br>Vo <del>lt line les announce</del>          | **************************************   |  |
| 470                   | 11                              | 11                |   |   |   |   |                      |             | · · ·  | !<br>!***********************************        |  |  |
| 480                   | lt .                            | 8.01              |   |   |   | <del></del>                             |                      |             |  |  |  |  |
| 490                   | 11                              | Ħ                 |   | ****                                    |   |   |                      |             |  |  |  |  |
| 500                   | 11                              | 11                |   | ***                                     |   |   |                      | <del></del> |  |  | <del></del>  |  |
| 510                   | 11                              | 8.51              |   |   |   |   |                      |             |  |  | CONTRACTOR AND   |  |
| 520                   | 11                              | 11                |   |   |   | *************************************** |                      |             |  | <del></del>                                      |  |  |
| 530                   | 11                              | 9.01              |   |   |   |   | <del></del>          | <del></del> |  | <del>~~~~~~</del> ,                              |  |  |
| 540                   | 11                              | 11                |   |   |   | ······································  | _                    |             |  |  | Military Marine and a reposition of the second   |  |
| 550                   | - 11                            | 11                |   |   |   |   |                      |             |  | ·····  |  |  |
| 560                   | 11                              | 9.51              |   |   |   |   | _                    |             |  |  | · · · · · · · · · · · · · · · · · · ·  |  |
| 570                   | 11                              | 12                | <del></del>                             |   |   | <del></del>                             |                      |             |  |  | ·  |  |
| 580                   | 4.01                            | 10.0              |   |   |   |   |                      | <del></del> |  |  | ****************   |  |
| 590                   | tt .                            | 11                |   |   |   | * * **********************************  |                      |             |  |  | Market de Market de Market de la constitución de la |  |
| 600                   |                                 |                   |   |   | <del></del>   |   | _                    |             | <del></del>                                      |  |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is sounted on pole below the neutral).

2. 30-inch minimum midspan separation between highest telephone conductor and neutral or econdaries.

ne of sight rule when secondaries up to 750 volts are involved.

.11 separations are based on REA pole head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 6 HD Copper

Light

nt TELEPHONE CONDUCTOR

n secondaries are present or planned, use column "Secondary". All arations shown are between neutral and telephone conductors. .080 HS 40% Copperwel HINIMUM SEPARATION AT POLE DETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Fee All RULING SPANS RULING SPAN RULING SPAN RULING SPAN RULING SPA LENGTH LOWER POWER COMD. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. LOWER POWER COND. NEUTRAL SECONDARY NEUTRAL SECONDARY HEUTRAL SECONDARY NEUTRAL SECONDARY HEUTRAL SECONDARY 200 210 220 230 240 250 260 270 280 290 4.01 7.01 300 310 11 11 320 11 11 330 11 11 340 350 11 11 360 11 11 370 Ħ 380 51 11 390 Ħ 8.01 Ħ 11 ,00 410 #1 8.51 11 420 11 11 430 9.01 11 Ħ 440 450 5.01 9.51 460 470 480 490 500 510 520 530 540 550 560 570 560 590

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600

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LOADING DISTRICT POWER CONDUCTOR

No. 6 HD Copper TELEPHONE CONDUCTOR

| *************************************** |  | ON NEW EEE    |                           |              |                       |             | L                 | ight     | TELEPHONE C       |             |  |  |
|---|--|---------------|---------------------------|--------------|-----------------------|-------------|-------------------|----------|-------------------|-------------|--|--|
| oparati                                 | candaries o                              | are between a | planned, us<br>eutral and | telephone ce | ondary A<br>aductors. | 11          |                   |          |                   |             | opperweld                              |  |
| - Andrews Constitu                      | MINIMUM SEPARATION AT POLE BETWEEN POWER |               |                           |              |                       |             |                   |          |                   |             |  |  |
| SPAN<br>LENGTH                          | All Ru                                   | LING SPANS    | RUI                       | LING SPAN    | RULING SPAN           |             |                   | RUL      | ING SPAN          | RULING SPAN |  |  |
| FY.                                     | LOWER                                    | POWER COMD.   | LOWER POWER COND.         |              | LOWER POWER COND.     |             | LOWER POWER COND. |          | LOWER POWER CONO. |             |  |  |
| 7                                       | NEUTRAL                                  | SECORDARY     | HEUTRAL                   | SECONDARY    | HEUTRAL               | SECO        | HOARY             | HEUTRAL  | SECONDARY         | HEUTRAL.    | SECONDARY                              |  |
| 200                                     |  |               |                           |              |                       |             |                   |          |                   | ļ           |  |  |
| 210                                     |  |               |                           |              |                       |             |                   |          |                   | <u> </u>    |  |  |
| 220                                     |  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 230                                     |  |               |                           |              |                       |             |                   |          | <u> </u>          |             |  |  |
| 240                                     |  |               |                           |              |                       |             |                   |          |                   |             | 1                                      |  |
| 250                                     | _  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 260                                     |  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 270                                     |  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 280                                     | ·  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 290                                     |  |               |                           |              |                       |             |                   |          |                   |             |  |  |
| 300                                     | 4.01                                     | 7.01          |                           |              |                       |             |                   |          |                   |             |  |  |
| 310                                     |  | 11            |                           |              |                       |             |                   |          |                   |             |  |  |
| 320                                     | 11                                       | 11            |                           |              |                       |             |                   |          |                   |             |  |  |
| 330                                     | ıł                                       | II II         |                           |              |                       |             |                   |          |                   |             |  |  |
| 340                                     | 11                                       | 11            |                           |              |                       |             |                   | <u> </u> |                   | ļ           | <br>                                   |  |
| 350                                     | 4,51                                     | 7.51          |                           |              |                       |             |                   |          | <del></del>       |             |  |  |
| 360<br>700                              |  | l It          |                           |              |                       |             |                   |          |                   |             |  |  |
| 370                                     |  | 11            |                           |              |                       |             |                   |          |                   |             |  |  |
| 380                                     | <u> </u>                                 | 11            |                           |              |                       |             |                   |          |                   |             | ······································ |  |
| 390<br>400                              | <u>5.01</u>                              | 8,01          |                           |              |                       |             |                   |          |                   |             |  |  |
| 410                                     | ))<br>                                   | <u> </u>      |                           |              |                       |             |                   |          |                   |             | <del></del>                            |  |
| 4:20                                    | ''<br>II                                 | 8.51          |                           |              |                       |             |                   |          | <del></del>       |             |  |  |
| 430                                     | 71                                       | 9,01          |                           |              |                       |             |                   |          |                   |             |  |  |
| 440                                     | 5,51                                     | 7401          |                           |              |                       |             |                   |          |                   |             |  |  |
| 450                                     | 7, 3 ·                                   | 9,51          |                           |              |                       |             |                   |          |                   |             | <del></del>                            |  |
| 460                                     | 11                                       | 10.0'         |                           |              |                       |             |                   |          |                   |             |  |  |
| 470                                     | 11                                       | 40.00         |                           |              |                       |             |                   |          | <del></del>       |             |  |  |
| 480                                     | 6.01                                     | 10.51         |                           |              |                       |             |                   |          |                   |             |  |  |
| 490                                     | 11                                       | 18            | -                         |              |                       |             |                   |          |                   |             |  |  |
| 500                                     | 11                                       | 11.01         |                           |              |                       |             |                   |          |                   |             | <del></del>                            |  |
| 510                                     | 11                                       | 11            |                           | ·            |                       |             |                   |          |                   |             | Halifa He say food begreen propaga     |  |
| 520                                     | 6.51                                     | 11.51         |                           |              |                       | ****        |                   |          |                   |             | <del></del>                            |  |
| 530                                     | . II                                     | 12.01         |                           |              |                       |             |                   |          |                   |             |  |  |
| 540                                     | 11                                       | II .          |                           |              |                       | <del></del> |                   |          |                   |             |  |  |
| 550                                     | 11                                       | 12.51         |                           |              |                       |             | <del> </del>      |          |                   |             |  |  |
| 560                                     | 7.01                                     | 13.01         |                           |              |                       |             |                   |          |                   |             | <del></del>                            |  |
| 570                                     | It ·                                     | 13.51         |                           |              |                       |             |                   |          |                   |             | · · · · · · · · · · · · · · · · · · ·  |  |
| 580                                     | 11                                       | 11            |                           |              |                       |             |                   |          |                   |             |  |  |
| 590                                     | 7.51                                     | 14.01         |                           |              |                       |             |                   |          |                   |             |  |  |
| 600                                     |  |               | <u> </u>                  |              |                       |             |                   |          |                   |             |  |  |
|   |  |               |                           |              |                       |             |                   |          |                   |             |  |  |

MOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

2. 30-inch minimum midspan separation between highest telephone conductor and neutral or secondories.

. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pele head configurations with neutral 3% feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3. feet below neutral.

Then secondaries are present or planned, use column "Secondary". All

LOADING DISTRICT POWER CONDUCTOR.

No. 6 HD Copper TELEPHONE CONDUCTOR

Light

700 Canda 725 Ste

| oparati       |              | ate peraced De           |         |                       |                                       |                                       |              |                                       | رري ade      |              |
|---------------|--------------|--------------------------|---------|-----------------------|---------------------------------------|---------------------------------------|--------------|---------------------------------------|--------------|--------------|
| SPAN          | ATT BU       | IBINUM SEP<br>Ling spans | ARATION | AT POLE 8<br>Ing span | ETWEEN P                              | OWER HEUT                             | RAL AND      | TELEPHOME<br>ING SPAN                 |              |              |
| LENGIH<br>FT. |              | OWER COMD.               |         | LOWER POWER COND.     |                                       | WER COND.                             | <del> </del> | WER COND.                             |              | HER COND.    |
|               | NEUTRAL      | SECONDARY                | HEUTRAL | SECONDARY             | NEUTRAL                               | SECONDARY                             | NEUTRAL      | SECONDARY                             | HEUTRAL      | SECONDARY    |
| 200           |              |                          |         |                       |                                       | - Company                             | NEUTRAL      | JACCONDANT                            | NEUTRAL      | SECONDANT    |
| 210           | <del> </del> |                          |         |                       |                                       |                                       |              |                                       |              |              |
| 220           |              |                          |         |                       |                                       | <del> </del>                          |              | -                                     |              |              |
| 230           |              |                          |         | <del> </del>          |                                       |                                       | <del> </del> |                                       | <del> </del> |              |
| 240           |              |                          |         |                       | <u> </u>                              |                                       | İ            |                                       |              | <del> </del> |
| 250           |              |                          |         |                       |                                       | <del> </del>                          | <del> </del> | <del> </del>                          | <del> </del> |              |
| 260           |              |                          | ·       |                       |                                       |                                       | <u> </u>     | <del> </del>                          |              |              |
| 270           |              |                          |         |                       | <del></del>                           | <del> </del>                          |              |                                       |              |              |
| 280           |              |                          | *       |                       | -                                     |                                       |              |                                       |              |              |
| 290           |              |                          |         | <del></del>           | <del> </del>                          |                                       | <u></u>      |                                       |              |              |
| 300           | 4.01         | 7.01                     |         |                       | <del></del>                           |                                       |              |                                       |              |              |
| 310           | 11           | 11                       |         |                       |                                       |                                       |              | <u> </u>                              |              |              |
| 320           | 11           | 11                       |         |                       | <u> </u>                              |                                       |              | <del></del>                           |              |              |
| 330           | 4.51         | 7.51                     |         | `                     |                                       | <del></del>                           |              | <del> </del>                          |              |              |
| 340           | 11           | 11                       |         |                       |                                       | <u> </u>                              | <u> </u>     |                                       |              |              |
| 350           | 31           | 11                       |         |                       |                                       |                                       |              | · · · · · · · · · · · · · · · · · · · |              |              |
| 360           | 11           | rt .                     |         |                       |                                       |                                       |              |                                       |              |              |
| 370           | 11           | lt.                      |         |                       |                                       |                                       |              |                                       |              |              |
| 380           | 5.01         | 8.01                     |         |                       |                                       |                                       |              |                                       |              |              |
| 390           | 11           | lt .                     |         |                       |                                       |                                       |              |                                       |              |              |
| 400           | 11           | Ħ                        |         |                       |                                       |                                       |              |                                       |              |              |
| 410           | 11           | 8.51                     |         |                       |                                       |                                       |              |                                       |              |              |
| 420           | 5.51         | 11                       |         |                       |                                       |                                       |              |                                       |              |              |
| 430           | 11           | 9.01                     |         |                       |                                       |                                       |              |                                       |              |              |
| 440           | 11           | 11                       |         |                       |                                       |                                       |              |                                       |              |              |
| 450           | 11           | 9.51                     |         |                       |                                       |                                       |              |                                       |              |              |
| 460           | 6.01         | 10,0                     |         |                       |                                       |                                       |              |                                       |              |              |
| 470           | 11           | 18                       |         |                       |                                       |                                       |              |                                       |              |              |
| 480           | 1)           | 10.51                    |         |                       |                                       | ļ                                     |              |                                       |              |              |
| 490           |              | 11                       | ,       |                       |                                       | ļ                                     |              | ļ                                     |              |              |
| 500           | 6.51         | 11.0'                    |         |                       | ·····                                 |                                       |              |                                       |              |              |
| 510           | 11           | 11.5'                    |         |                       |                                       |                                       |              |                                       |              |              |
| 520           | 11           | 11                       |         |                       |                                       |                                       |              |                                       |              |              |
| 530           | 7.01         | 12.01                    |         |                       | · · · · · · · · · · · · · · · · · · · |                                       | <del> </del> |                                       |              |              |
| 540           | 18           | 12.51                    |         |                       |                                       | ļ                                     |              |                                       |              |              |
| 550           | 11           | 11                       |         |                       |                                       |                                       |              |                                       |              |              |
| 560           | 7.51         | 13.01                    |         | <u></u>               | · · · · · · · · · · · · · · · · · · · |                                       |              |                                       |              | <b>~</b>     |
| 570           | it .         | 13.51                    |         |                       |                                       |                                       | <u></u>      |                                       |              | <del></del>  |
| 580           |              |                          |         |                       |                                       |                                       |              |                                       |              |              |
| -590<br>600   |              | <u> </u>                 | ·       |                       |                                       | · · · · · · · · · · · · · · · · · · · |              |                                       |              | ·            |
| 000           |              |                          |         |                       | 1                                     |                                       |              |                                       | ı I          |              |

NOTES: The data shown in this table reflect the following basic minimum requirements:

<sup>1. 40-</sup>inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is sounted on pole below the neutral).

<sup>2. 30-</sup>inch minimum midspan separation between highest telephone conductor and neutral or

<sup>3.</sup> Line of sight rule when secondaries up to 750 volts are involved.

<sup>4.</sup> All separations are based on REA pole head configurations with neutral 3½ feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

. secondaries are present ar planned, use column "Secondary". All reations shown are between neutral and telephone conductors.

POWER CONDUCTOR

TELEPHONE CONDUCTOR

No. 6 HD Copper

Light

LOADING DISTRICT

.109 Grade 190 Steel

| *************************************** |         | HININUM SEPARATION AT POLE BETWEEN POWER NEUTRAL AND TELEPHONE CONDUCTORS (Feet |          |  |   |  |  |              |  |              |  |  |  |
|---|---------|---|----------|--|---|--|--|--------------|--|--------------|--|--|--|
| SPAN<br>LENGTH                          | All Ru  | LING SPANS  | RUI      | ING SPAN                               | RU                                      | LING SPAN  | RU RU  | LING SPAN    | RULING SPAN                                      |              |  |  |  |
| FT.                                     |         | POWER COND.   |          | OWER COND.                             |   | OWER COND.                                       | <del></del>  | OWER COND.   | <u>~}</u>  | OWER COND.   |  |  |  |
|   | MEUTRAL | SECONDARY   | MEUTRAL  | SECONDARY                              | NEUTRAL                                 | SECONDARY  | HEUTRAL  | SECONDARY    | NEJTRAL  | SECONDARY    |  |  |  |
| 200                                     |         |   |          |  |   |  | 1  |              | 114511111  | Jacono       |  |  |  |
| 210                                     |         |   |          |  |   |  | <del>                                     </del>   |              | <u> </u>   | •            |  |  |  |
| 220                                     |         |   |          |  |   |  | <u> </u>   |              | <del></del>                                      |              |  |  |  |
| 230                                     |         |   |          |  |   | 1  |  |              |  | <u> </u>     |  |  |  |
| 240                                     |         |   |          |  |   |  |  |              | † <del></del>                                    |              |  |  |  |
| 250                                     |         |   | <u> </u> |  |   |  |  |              | <del> </del>                                     |              |  |  |  |
| 260                                     |         |   |          |  |   |  |  | <del> </del> | <del>                                     </del> | <del> </del> |  |  |  |
| 270                                     |         |   |          | · · · · · · · · · · · · · · · · · · ·  | <del></del>                             | <del> </del>                                     |  | <del> </del> | <del> </del>                                     | <del> </del> |  |  |  |
| 280                                     |         |   |          | ·                                      |   | <b></b>  |  | <u> </u>     | <del> </del>                                     | <del> </del> |  |  |  |
| 290                                     |         |   |          | ·                                      |   | <del>                                     </del> | <del> </del>                                       |              | <del> </del>                                     | <u> </u>     |  |  |  |
| 300                                     | 4.51    | 7.51  |          | ······································ |   |  |  |              | <del></del>                                      |              |  |  |  |
| 310                                     | 11      | 11  |          | ······································ |   | 1  |  |              | <del> </del>                                     | <del> </del> |  |  |  |
| 320                                     | 11      | 11  |          |  | <del></del>                             |  |  |              | <u> </u>   | <del> </del> |  |  |  |
| 330                                     | 11      | 11  |          | · · · · · · · · · · · · · · · · · · ·  |   | <del> </del>                                     |  | 1            | <del> </del>                                     | <del> </del> |  |  |  |
| 340                                     | - 11    | 11  |          |  |   | 1  |  |              |  |              |  |  |  |
| 350                                     | 5.01    | 8,01  |          |  |   |  | · · · · · · · · · · · · · · · · · · ·              | 1            | <u> </u>   |              |  |  |  |
| 360                                     | 11      | 11  |          |  |   |  |  |              | <del> </del>                                     |              |  |  |  |
| 370                                     | 11      | 71  |          |  | *************************************** | <u> </u>   |  |              |  | <del> </del> |  |  |  |
| 380                                     | 11      | II .  |          |  | ······································  |  |  | ·····        |  |              |  |  |  |
| 790                                     | 5.51    | 8.51  |          |  | ·                                       |  |  |              | · · · · · · · · · · · · · · · · · · ·            |              |  |  |  |
| 0                                       | - 11    | 11  |          |  |   |  |  |              |  |              |  |  |  |
|   | \$1     | 11  | ·        |  |   |  |  |              | ļ <del></del>                                    |              |  |  |  |
| 420                                     | 6.01    | 9,01  |          |  | <del></del>                             |  | <del></del>  |              |  |              |  |  |  |
| 430                                     | н       | 11  |          |  |   |  | -  |              |  | <del></del>  |  |  |  |
| 440                                     | 11      | н   |          |  |   |  | ····   |              |  |              |  |  |  |
| 450                                     | Ħ       | 9.51  |          |  |   |  |  |              |  |              |  |  |  |
| 460                                     | 6.51    | 10.01   |          |  |   | <del></del>                                      |  | <del></del>  |  |              |  |  |  |
| 470                                     | 11      | 11  |          |  |   | <del></del>                                      |  |              |  |              |  |  |  |
| 480                                     | 11      | 10.51   |          |  |   |  |  |              |  |              |  |  |  |
| 490                                     | 7.01    | 11  |          |  |   |  |  |              | ***  |              |  |  |  |
| 500                                     | 11      | 11.01   |          |  |   |  |  |              |  |              |  |  |  |
| 510                                     | 11      | 11.5!   |          |  |   |  |  |              |  |              |  |  |  |
| 520                                     | 7.51    | 11  |          |  |   |  | <del>'                                      </del> |              |  |              |  |  |  |
| 530                                     | 11      | 12.01   |          |  | ******                                  |  |  |              |  |              |  |  |  |
| 540                                     | II      | 12.51   |          |  |   |  |  |              |  |              |  |  |  |
| 550                                     | 8.01    | 11  |          |  |   |  |  |              |  |              |  |  |  |
| 560                                     | 15      | 13.01   |          |  |   |  |  |              |  | <del></del>  |  |  |  |
| 570                                     | 8.51    | 13.51   |          |  |   |  |  |              |  |              |  |  |  |
| 580                                     |         |   |          |  |   |  |  |              |  |              |  |  |  |
| 590                                     |         |   |          |  |   |  |  |              |  |              |  |  |  |
| 600                                     |         | :   |          |  |   |  |  |              | <del></del>                                      | ·            |  |  |  |
|   |         |   |          |  | ············                            |  |  | 1            | I  |              |  |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1; 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on onle below the neutral),

30-inch minimum midspan separation between highert telephone conductor and neutral or secondaries.

Line of sight rule when secondaries up to 750 volt are involved.

All separations are based on REA pole head configurations with neutral 3% feet below pale top and phase wires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT POWER COMOUCTOR

No. 8A Copperweld

TELEPHONE CONDUCTOR

hen secondaries are present or planned, use column "Secondary".

operations shows are between neutral and telephone conductors

Light

ORO HS LOW Conners

| operat1               | Cas acces   | grebetveed p<br>Bulling Se            | owiful dad                              | telephone co   | 20100  | © 080 HS 40% Copperweld R HEUTHAL AND TELEPHONE CONDUCTORS (Feet.)   |  |   |  |  |  |
|-----------------------|-------------|---------------------------------------|---|--|--|--|--|---|--|--|--|
| SPAN                  | 411 011     | LING SPANS                            | PARATION                                | LING SPAN  | NETWEEN .  | LING SPAN  | THAL AND                               | TEL EPHONE                              | conductors (Feet.)   |  |  |
| SPAN<br>LENGTH<br>FT. |             | OWER COMD.                            | ·                                       | LOWER POWER COND.  |  | OWER COND.   |  | LING SPAN                               |  | RULING SPAN  |  |
| 1                     | HEUTRAL     | SECONDARY                             | HEUTRAL                                 | SECONDARY  | HEUTRAL  | SECONDARY  | •                                      | OWER COND.                              | 1  | OWER COND.   |  |
| 200                   | <del></del> |                                       |   |  | THE TRUE   | SECOMBANY  | NEUTRAL                                | SECONDARY                               | HEUTRAL  | SECONDARY  |  |
| 210                   |             |                                       |   | THE PERSON NAMED IN COLUMN 1   | · Committee of the Comm | The state of the s |  |   | AND THE RESIDENCE  | And the last of Columns and Statement and St |  |
| 220                   |             |                                       | *************************************** |  | -  | -  |  |   |  |  |  |
| 230                   |             |                                       |   | ****************   |  |  |  |   |  |  |  |
| 240                   |             |                                       | THAIH                                   |  | **************************************   |  |  |   |  |  |  |
| 250                   |             |                                       |   |  |  |  | -                                      |   |  |  |  |
| 260                   |             |                                       | P. Phoebian St. divine annual           | A de trade d | Annual in the second   | and the parameter of the last  | W                                      |   | ***************************************  | C. LOCKSON CONTRACTOR AND DESCRIPTION OF THE PERSON OF THE |  |
| 270                   |             |                                       | 7 (70 S                                 | THE RESERVE AND ADDRESS OF THE PERSON NAMED AND ADDRESS OF THE | **************************************   |  | ************************************** | A                                       |  |  |  |
| 280                   |             |                                       |   | A STATE OF THE PARTY OF THE PAR | · · · · · · · · · · · · · · · · · · ·  |  |  |   |  |  |  |
| 290                   |             |                                       |   | ) Pilo remaining pipe and proper plants about a party  | A CONTRACTOR OF THE PARTY OF TH | -  |  | *************************************** |  |  |  |
| 300                   | 3,51        | 6,51                                  |   |  | 7  | <u> </u>   | ·                                      |   |  | <del> </del>   |  |
| 310                   | 1/          |                                       |   | THE PARTY OF THE PROPERTY OF THE PARTY OF  |  |  |  |   |  |  |  |
| 320                   | 11          | t)                                    |   |  |  | <u> </u>   | <u> </u>                               |   |  |  |  |
| 330                   | 11          | 11                                    |   |  |  |  |  |   | *****************************  |  |  |
| 340                   | 11          | 11                                    |   |  |  |  |  |   | · N. 1. S. C.  |  |  |
| 350                   | <b>†1</b>   | 11                                    |   |  |  |  |  |   |  |  |  |
| 360                   | - II        | 11                                    |   | ****   |  |  | ****************                       |   |  |  |  |
| 370                   | 11          | - 11                                  |   |  | ·  |  |  |   |  |  |  |
| 380                   | 11          | 11                                    |   |  |  |  |  |   |  | ***************************************  |  |
| 390                   |             |                                       |   |  |  |  |  |   |  |  |  |
| 400                   | II .        |                                       |   |  |  |  |  |   |  |  |  |
| 410                   | 11          | 11                                    |   | -  |  | <u></u>  |  |   |  | P. S.  |  |
| 420                   | 11          |                                       |   |  | · · · · · · · · · · · · · · · · · · ·  |  |  |   |  |  |  |
| 430                   |             |                                       | <del></del>                             |  | ·  | ···  |  |   |  |  |  |
| 440                   | 11          |                                       |   |  |  |  |  |   |  |  |  |
| 450<br>460            | !!          | 11                                    |   |  |  |  |  |   |  |  |  |
| 470                   |             |                                       |   |  |  |  |  |   |  |  |  |
| 480                   |             | ··                                    | ····                                    |  | ····   |  |  |   | Marie 1  |  |  |
| 490                   |             |                                       |   |  |  | /*****/*******************************   |  |   |  | MASSET-Verside als descriptions gang   |  |
| 500                   |             | <del></del>                           |   |  | W  |  | ļ                                      |   |  |  |  |
| 510                   |             |                                       |   |  |  | **************************************   |  | *************************************** | -  |  |  |
| 520                   |             |                                       |   |  |  |  |  |   | **************************************   |  |  |
| 530                   |             |                                       |   |  |  |  |  |   |  | **************************************   |  |
| 540                   |             | · · · · · · · · · · · · · · · · · · · |   |  |  | T-1-1-0-07-0-14-17-18-18-18-18-18-18-18-18-18-18-18-18-18-   |  |   |  |  |  |
| 550                   |             |                                       |   |  |  |  |  |   |  |  |  |
| 560                   |             | _                                     |   |  |  | ***************************************  |  |   | MARKET MARKET SHOP THE PARTY OF | C Wood Charles   |  |
| 570                   |             |                                       |   |  |  | <del></del>  | <u> </u>                               |   |  |  |  |
| 580                   |             |                                       |   |  |  |  |  |   |  |  |  |
| 590                   |             |                                       | 7                                       |  |  |  |  |   |  |  |  |
| 500                   |             |                                       | ···                                     |  |  |  |  | ·                                       |  |  |  |
|                       |             |                                       |   |  |  |  |  |   |  |  |  |

NOTES: The data shown in this table reflect the following basic minimum requirements: 1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted on pole below the neutral).

1. 30-inch minimum midmpon separation between highest telephone conductor and neutral or mecondaries.

3. Line of sight rule when secondaries up to 750 volts are involved.

4. All separations are based on REA pole head configurations with neutral 3% feet below pale top and phase sires occupying a position at top of pole and lowest secondary 3 feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

Light

No. 8A Copperweld

Black secondaries are present or planned, use column "Secondary". All

.102 EHS 30% Copperweld

| separati       | 008 600WR C | re between ne | utral and         | telephone col | ductors.                                |              |              | POLUM IN                               | CARCUCTO                       | se (Feet)    |  |
|----------------|-------------|---------------|-------------------|---------------|---|--------------|--------------|--|--------------------------------|--------------|--|
|                | M           | HINUM SEP     | ARATION           | AT POLE B     | ELAKSU A.                               | ING SPAN     | RUL AND      | ING SPAN                               | COMDUCTORS (Feet.) RULING SPAN |              |  |
| SPAN<br>LENGTH |             | ING SPANS     |                   |               |   |              |              | ······································ |                                | WER COND.    |  |
| FT.            | LOWER P     | OWER COMD.    | LOWER POWER COND. |               |   | WER COND.    |              | WER COND.                              |                                | I            |  |
|                | HEUTHAL     | SECORDARY     | HEUTRAL           | SECOMDARY     | HEUTRAL                                 | SECONDARY    | HEUTRAL      | SECONDARY                              | HEUTRAL                        | SECONBARY    |  |
| 200            |             |               |                   |               |   |              |              |  |                                |              |  |
| 210            |             |               |                   |               |   |              |              |  | <del> </del>                   | <del> </del> |  |
| 220            |             |               |                   |               |   |              | :<br>        |  |                                | <del> </del> |  |
| 230            |             |               |                   |               |   |              |              | <u> </u>                               |                                | <u> </u>     |  |
| 240            |             | <u> </u>      |                   |               |   |              |              |  |                                |              |  |
| 250            |             |               |                   |               | *************************************** |              | _            |  |                                |              |  |
| 260            |             |               |                   | <u></u>       | ļ                                       |              | <u></u>      |  |                                |              |  |
| 270            |             |               |                   | <u> </u>      | <u></u>                                 | <u> </u>     |              |  |                                |              |  |
| 280            |             |               |                   | <u> </u>      | ļ                                       | ļ            |              |  |                                |              |  |
| 290            |             | <u> </u>      |                   |               |   | ļ            |              |  |                                | <u> </u>     |  |
| 300            | 3,51        | 6.51          |                   | ļ             | <u> </u>                                | ļ            | <u> </u>     |  | -                              |              |  |
| 310            | 11          | 11            |                   |               |   | <del> </del> | <u> </u>     |  |                                | <del> </del> |  |
| 320            | 11          | 11            |                   |               |   |              | <u> </u>     |  |                                | <del> </del> |  |
| 330            | 11          | 11            |                   |               |   |              |              |  | ļ                              | <u> </u>     |  |
| 340            | 11          | it            | ļ                 |               | <b></b>                                 | ļ            | <u> </u>     |  | ļ                              | <del> </del> |  |
| 350            | 11          | 11            |                   | <u> </u>      |   |              | <u> </u>     | <u> </u>                               |                                |              |  |
| 360            | 11          | []            |                   |               |   | ļ            | <u> </u>     | <u> </u>                               |                                |              |  |
| 370            | 11          | 1 11          |                   | <u> </u>      |   |              | <u> </u>     |  |                                |              |  |
| 360            | 11          | 11            |                   | <del> </del>  |   | ļ            | <u> </u>     | <del> </del>                           | <u> </u>                       |              |  |
| 390            | II          | l†            |                   | ļ             |   | <del> </del> |              |  | <u> </u>                       | <del> </del> |  |
| 400            | H           | 11            |                   | <u> </u>      | ļ                                       | <u> </u>     |              | <del> </del>                           |                                | <del> </del> |  |
| 410            | 17          | 11            |                   | <u> </u>      | <del> </del>                            |              |              | <u> </u>                               |                                |              |  |
| 420            | 11          | lf            | <u> </u>          | <u> </u>      | ļ                                       | <u> </u>     |              |  | <u> </u>                       | <u> </u>     |  |
| 430            | II          | l†            |                   | <u> </u>      | ļ <u> </u>                              |              | ļ            |  | <u> </u>                       |              |  |
| 440            | 10          | 11            |                   |               | <u></u>                                 | <b></b>      |              |  |                                |              |  |
| 450            | 13          | 7.01          |                   |               |   |              | ļ            |  | <del> </del>                   |              |  |
| 460            | 11          | 11            |                   |               | ļ                                       | <u> </u>     | ļ            |  | <u> </u>                       |              |  |
| 470            | H           | lt .          |                   |               |   | <del> </del> | ļ            |  | ļ                              | <u> </u>     |  |
| 480            | If          | 7.51          |                   |               | <del> </del>                            | <u> </u>     |              |  | <del> </del>                   |              |  |
| 490            | t (         | 11            | ļ                 | <del></del>   | <u> </u>                                | <del> </del> | ļ            |  | <del> </del>                   | <del> </del> |  |
| 500            | 11          | 11            |                   |               | ļ <u>'</u>                              | <u> </u>     | <del> </del> |  |                                | -            |  |
| 510            | It .        | 8.01          | <u></u>           | ļ             | <del> </del>                            | <u> </u>     | <del> </del> |  | <del> </del>                   | <del> </del> |  |
| 520            | I†          | 11            | ļ                 | <u> </u>      | <del> </del>                            | ļ            | <b> </b>     | <del> </del>                           | <del> </del>                   | <del> </del> |  |
| 530            | lt          | 11            |                   | <u> </u>      | <del> </del>                            | <del> </del> | <del> </del> |  | <del> </del>                   | <del> </del> |  |
| 540            | 13          | 8.51          | <del> </del>      | <del> </del>  | ļ                                       | <del> </del> | <del> </del> |  | <del> </del>                   |              |  |
| 550            | 11          | 11            |                   | <u> </u>      | ļ                                       | ļ            |              |  |                                | <del> </del> |  |
| 560            | 11          | 9.01          |                   |               | -                                       | <del> </del> | <del> </del> | <del> </del>                           | <del></del>                    | <del> </del> |  |
| 570            | 11          | "             | <u> </u>          | <u> </u>      | <b></b>                                 | ļ            | <u> </u>     |  | <del> </del>                   | -            |  |
| 580            | It .        | 11            |                   | <u> </u>      | <u> </u>                                | -            |              | <del> </del>                           | <del> </del>                   | ļ            |  |
| 590            | 11          | 9.51          |                   |               | <del> </del>                            |              | <del> </del> | <u> </u>                               | <del> </del>                   | <del> </del> |  |
| 600            | 1 -         | 1             | 1                 | 1             | 1                                       | i            | l            | 1                                      | A                              |              |  |

MOTES: The data shown in this table reflect the following basic minimum requirements:

1. 40-inch minimum separation at pole between neutral or secondary and highest telephone conductor. (These tables do not include any consideration of minimum separation requirements when power equipment is mounted an pole below the neutral).

- 30-inch sinisus sidspan separation between highest telephone conductor and neutral or secondaries.
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- 4. All separations are based on REA pole head configurations with neutral 3½ feet below pole top and phase wires occupying a position at top of pole and lowest secondary 3. feet below neutral.

LOADING DISTRICT

POWER CONDUCTOR

No. 8A Copperweld

| Vince so   | ondaries a     | re present or                  |  |                   | ondary".                                | <u></u>                                | Light TELEPHONE CONDUCT |   |                                       |                                       |  |
|------------|----------------|--------------------------------|--|-------------------|---|--|-------------------------|---|---------------------------------------|---------------------------------------|--|
| separat:   | one shown      | re present or<br>are between n | entral and                                       | telephone co      | aductors.                               | `                                      |                         |   | .109 G                                | rade 13:                              | 5 Steel                                |
| SPAN       | A11            | ININUM SE<br>Ling span:        | PARATION   | AT POLE           | ETHEEN P                                | OWER H                                 | EUT                     | RAL AND                                 | TELEPHOHE                             | COMBUCT                               | ors (Fee                               |
| LENGTH     | Abrillado IV C | 2,110 0, 711                   |  | WING SEAM         | 701                                     | - 140 2                                | PAN                     | RUI                                     | ING SPAN                              | Rυ                                    | LING SPA                               |
| FT.        |                | POWER COMO.                    |  | LOWER POWER CONO. |   | LOWER POWER COND.                      |                         | LOWER POWER CONO.                       |                                       | LOWER POWER COND.                     |  |
|            | HEUTRAL        | SECOMBARY                      | HEUTRAL  | SECONDARY         | HEUTRAL                                 | SECONO                                 | ARY                     | MEUTRAL                                 | SECONDARY                             | MEUTHAL                               | SECOMBAR                               |
| 200<br>210 |                | <u> </u>                       | 1  |                   |   | ļ                                      |                         |   |                                       |                                       |  |
|            |                | <del> </del>                   | <del> </del>                                     |                   |   | ļ                                      | -                       | <u> </u>                                | <u> </u>                              |                                       |  |
| 220        | <u></u>        | ļ                              | <del> </del>                                     | <u> </u>          | <del> </del>                            |  |                         |   |                                       |                                       |  |
| 230        |                |                                | <del> </del>                                     | ·                 |   |  |                         |   |                                       |                                       |  |
| 240        |                | <del>}</del>                   | ]  |                   |   |  |                         |   |                                       |                                       |  |
| 250<br>260 |                | <del> </del>                   | ļ  |                   |   |  | T-114-1-1-              |   |                                       |                                       |  |
| 270        |                | <del> </del>                   | <del> </del>                                     |                   |   |  |                         |   |                                       |                                       |  |
| 280        |                |                                | <del> </del>                                     | <del></del>       | ļ                                       |  |                         |   |                                       | · · · · · · · · · · · · · · · · · · · |  |
| 290        |                | <u> </u>                       | <del> </del>                                     |                   |   |  |                         | ļ                                       |                                       |                                       | <u> </u>                               |
| 300        | 3.51           | 6.51                           | <del>                                     </del> |                   | <u> </u>                                |  |                         | ļ                                       |                                       | <del> </del>                          | <u> </u>                               |
| 310        | <u> </u>       | "                              |  |                   |   |  |                         |   |                                       |                                       | <u> </u>                               |
| 320        | 11             | 18                             |  |                   |   |  |                         | <u> </u>                                |                                       |                                       |  |
| 330        | 11             | 11                             |  |                   |   |  | <del></del>             |   |                                       |                                       |  |
| 340        | 11             | H                              |  |                   |   |  |                         |   |                                       | ļ                                     | ļ                                      |
| 350        | !!             | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 360        | 11             | II .                           |  |                   |   |  |                         |   |                                       |                                       | ļ                                      |
| 370        | 11             | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 380        | ři –           | *1                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 390        | 11             | 78                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 400        | tt .           | 10                             |  |                   | *************************************** |  |                         | ······································  |                                       |                                       | ···                                    |
| 410        | н              | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 420        | 11             | 11                             |  | ,                 |   | <del>,</del>                           |                         |   |                                       |                                       |  |
| 430        | 11             | It                             |  |                   | <del></del>                             |  | <del></del>             | <del></del>                             |                                       | ····                                  | <del></del>                            |
| 440        | 11             | 16                             | -  |                   | *************************************** | ····                                   |                         | ·                                       |                                       |                                       |  |
| 450        | 17             | 11                             |  |                   | ***                                     | ,                                      |                         | <del></del>                             |                                       |                                       | · · · · · · · · · · · · · · · · · · ·  |
| 460        | 11             | lf .                           |  |                   |   | ······································ |                         |   |                                       |                                       |  |
| 470        | 11             | 11                             |  |                   |   |  |                         | *************************************** |                                       |                                       |  |
| 480        | 17             | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 490        | 10             | 11                             |  |                   |   |  |                         |   |                                       |                                       | · · · · · · · · · · · · · · · · · · ·  |
| 500        | 18             | ††                             | Ī  |                   |   |  |                         |   |                                       |                                       | ************************************** |
| 510        | 11             | t)                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 520        | 18             | t#                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 530        | - 11           | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 540        | 11             | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 550        |                | 19                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 560        | !1             | Ił .                           |  |                   |   |  |                         |   |                                       |                                       |  |
| 570        | 12             | 11                             |  |                   |   |  |                         |   |                                       |                                       |  |
| 580        | 18             | 11.                            |  |                   |   |  |                         |   |                                       |                                       |  |
| 590        |                | <u> </u>                       |  |                   |   |  |                         |   |                                       |                                       |  |
| 600        |                | 1                              | · •  |                   |   |  |                         |   | · · · · · · · · · · · · · · · · · · · |                                       |  |

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